The
# SHIPPING WORLD

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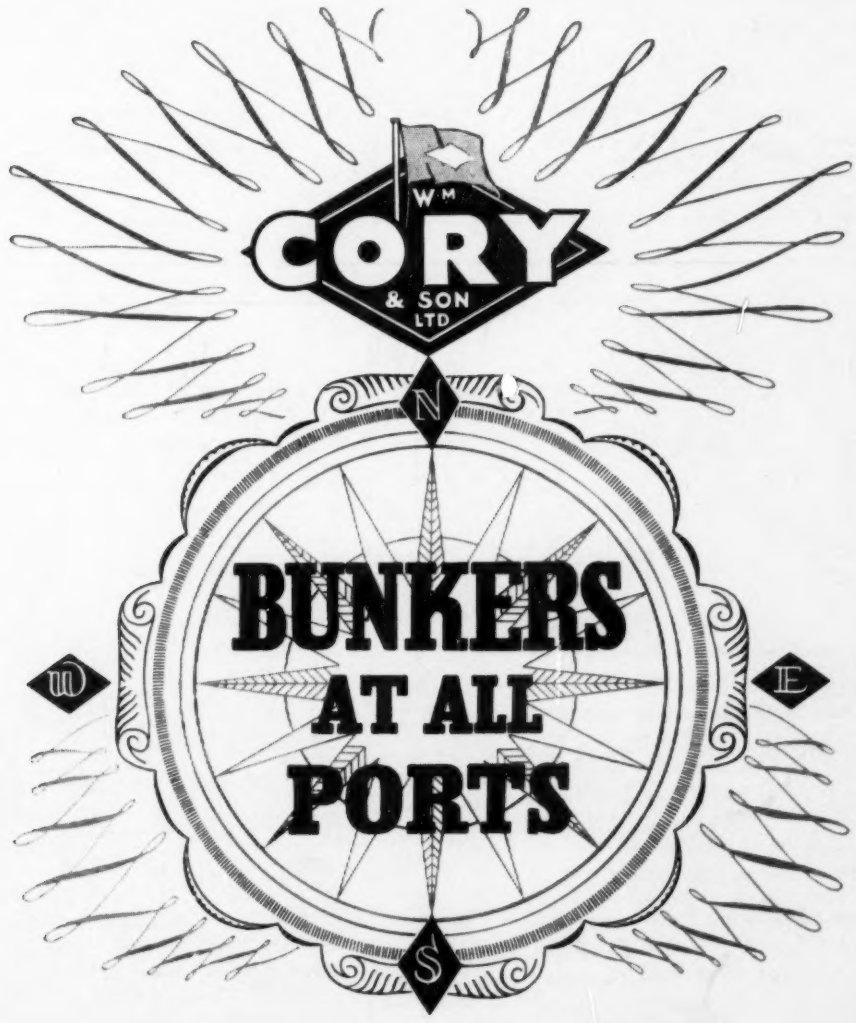


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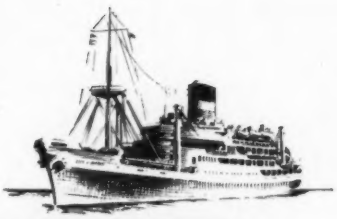

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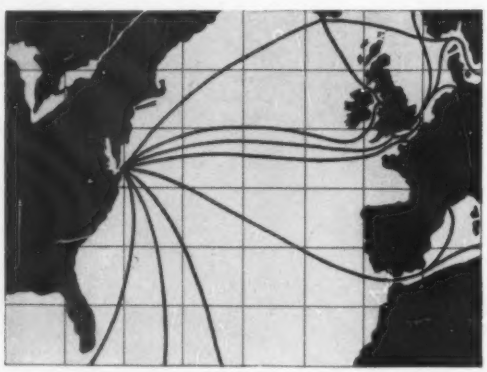

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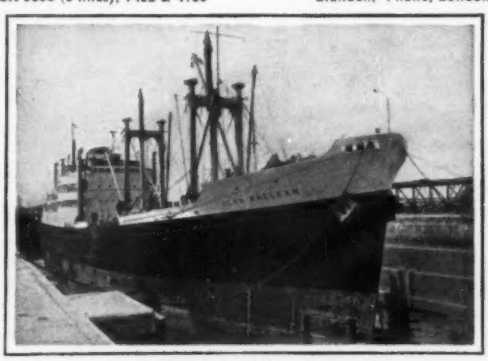

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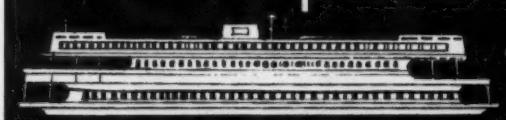

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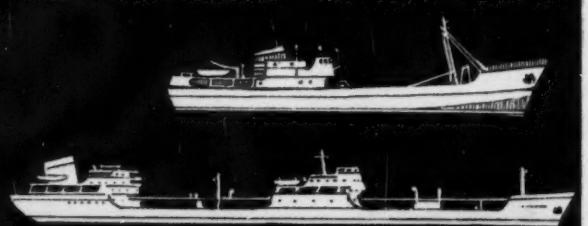

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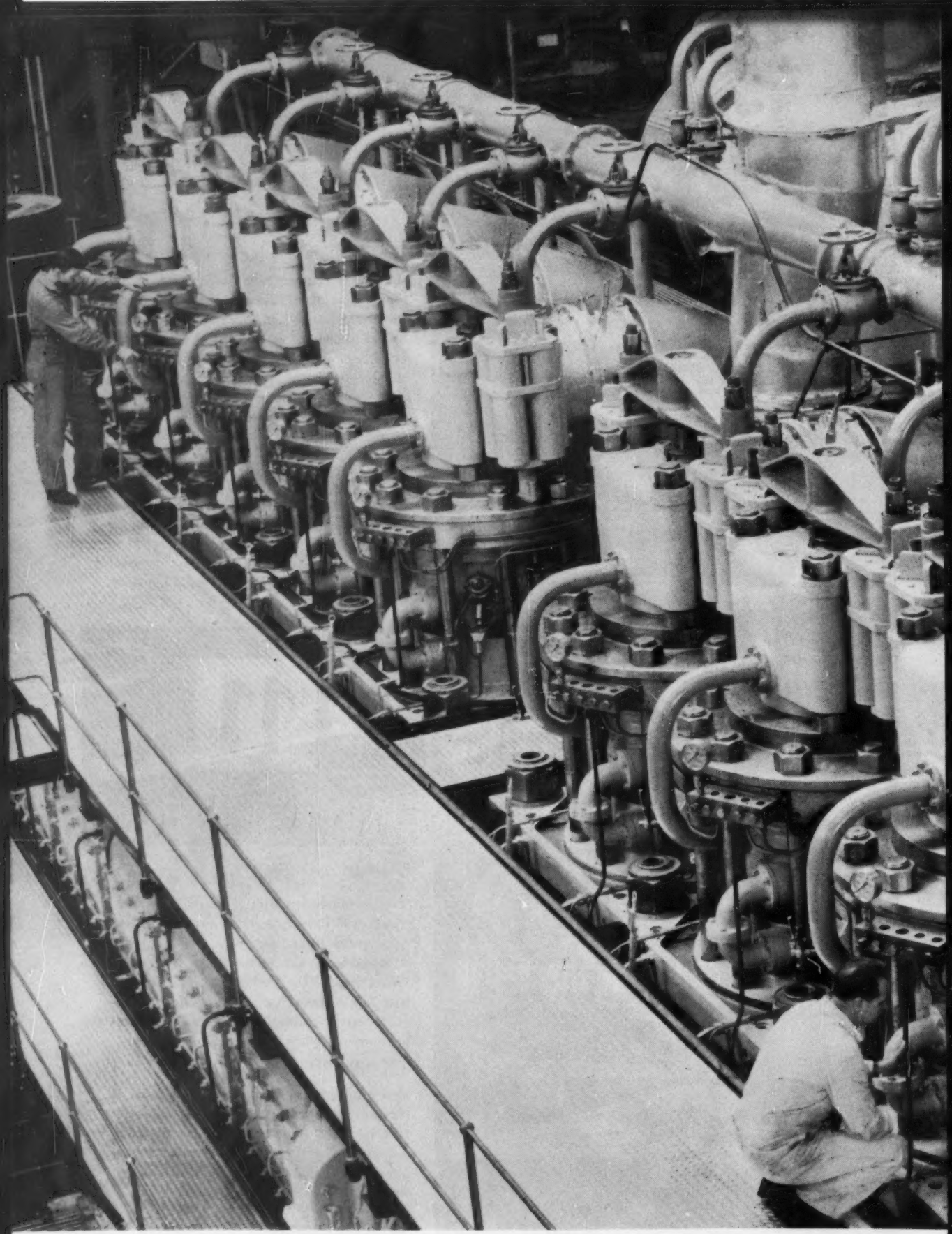

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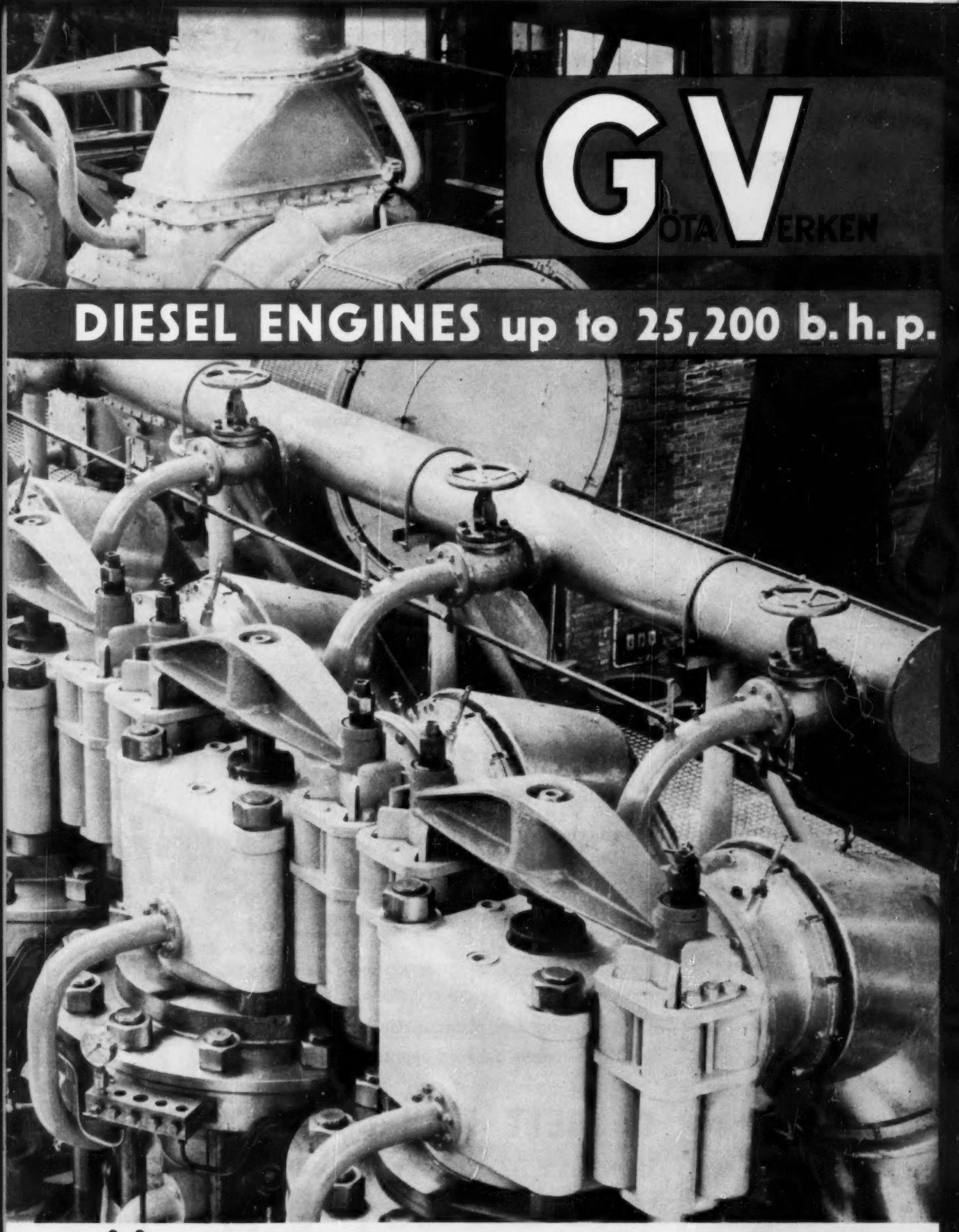

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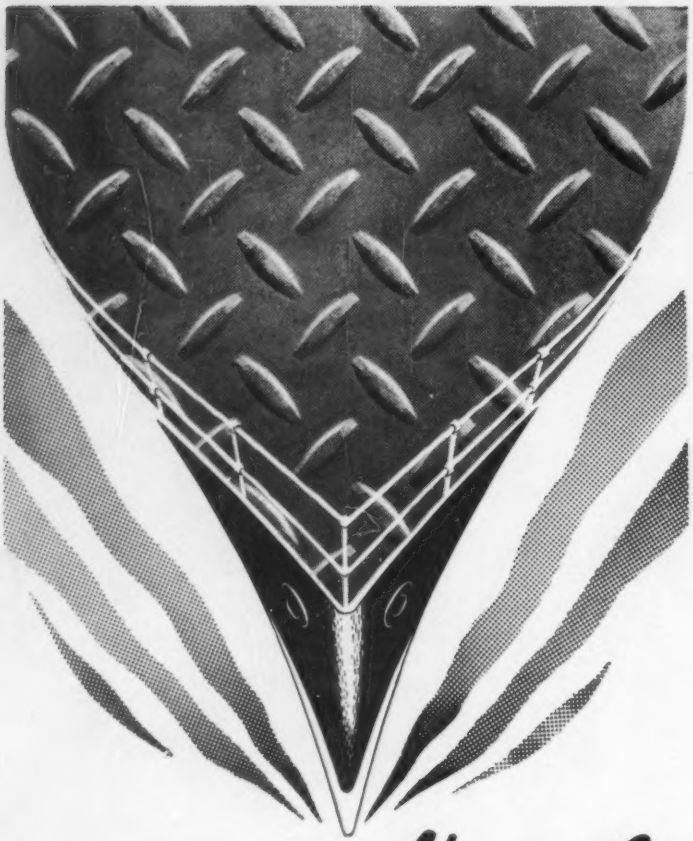

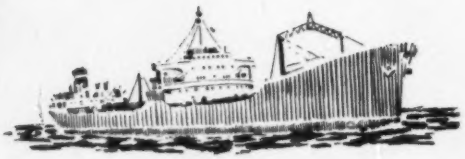

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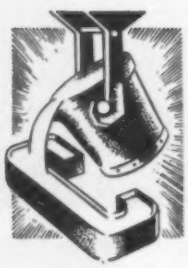

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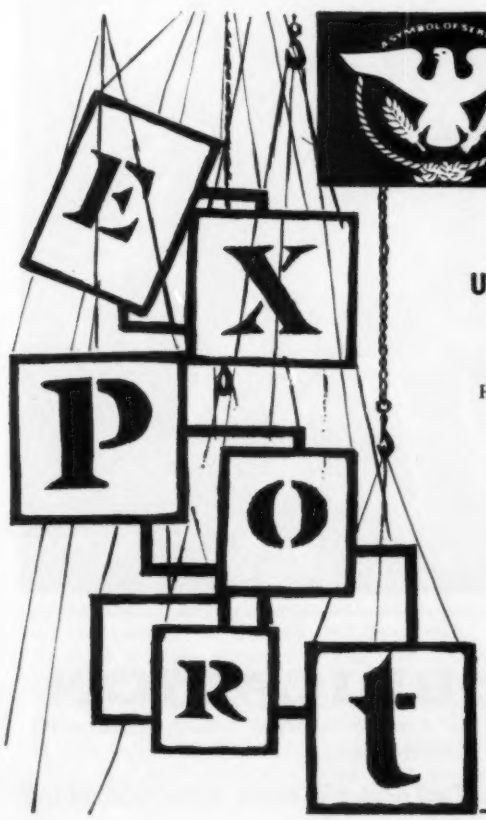


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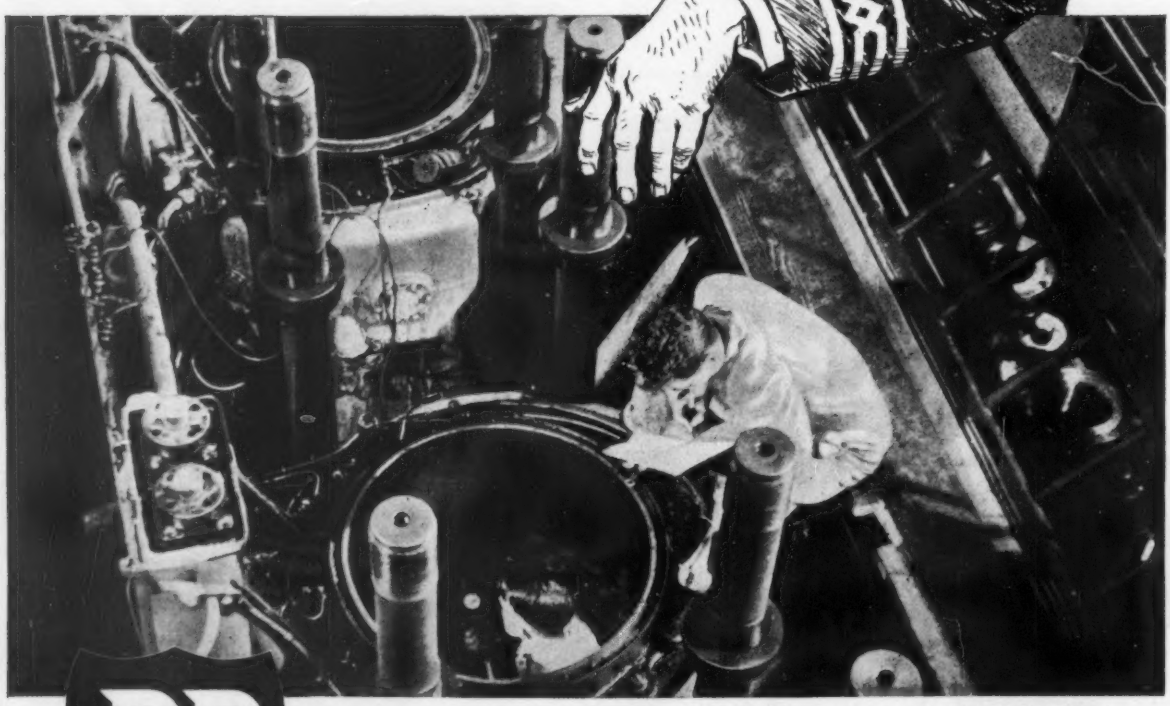

*Checking cylinder wear rate on a marine diesel main propulsion unit.*

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THE SHIPPING WORLD

# HIGHER SHIPBUILDING WAGE COSTS

ONCE agreement had been reached on the wage increase for engineering workers, it was hardly possible for the shipbuilding employers to do other than agree to a similar increase, however ill such an addition to costs may serve the interests of the industry in its present state. This was duly done at the beginning of last week. However, the employers twice refused the unions' claim, and at the beginning of this last meeting offered increases 2s below the terms finally agreed. How far this process of delay and final capitulation benefited the employers is open to question: it would seem that an attitude of realism would have been more conducive to dignity. Addressing the negotiators from the Confederation of Shipbuilding & Engineering Unons, the president of the Shipbuilding Employers' Federation suggested that the claim could only be dealt with on the basis of the shipbuilding industry's position, and the settlement was reached on condition that the unions agreed to discuss steps to be taken to improve the competitive position of the industry. In view of the fact that this last condition has been attached to every recent settlement, and nothing significant has ever come of it, neither of these points appears very realistic.

After the meeting more than one of the union representatives almost went out of his way to cock a snook at the employers. Mr Ted Hill, who is nothing if not a cynic, has already been extensively quoted in the press, while another representative was quoted as saying that the discussions agreed to were "just a face-saver for the employers." It was left to Mr Jim Matthews, president of the Confederation and a trade unionist of a different calibre, to inject a little realism into the proceedings from the union side. Speaking later in the week after the Confederation had endorsed the agreement, he said that it would be sheer irresponsibility on the part of any of their members to shut their eyes to any of the difficulties. "It is incumbent both on the employers and the Confederation to see to it that the industry is brought into such a state of efficient competitiveness that there should be continued employment." This is sense, and the pity of it is that it could not have been said a year ago. However, it is unfortunately true that without the immediate threat of present and future unemployment, none of the changes which are so obviously needed will ever be agreed.

Shipbuilding employers, in fact, are in a better position to press for the complete reorganisation of labour within the industry than at any time since the war, and words written at the end of last year by Mr John Rannie, who is the president of the Shipbuilding Employers' Federation (*SW*, 4.1.61) suggest that he is well aware of this. But it is unlikely that the discussions which are now to take place will lead to anything more than their predecessors. Mr Hill was quick to point out after the meeting that led to the agreement that the Confederation is precluded from discussing such matters as demarcation, which are the responsibility of individual unions, and he appears to have been entirely complacent at the thought that no changes were likely to materialise. What the discussions may possibly do is to throw the light of additional publicity on the unions' attitude, and this can do no harm.

As for achieving results, there may be better occasions before long. It has already been suggested in THE SHIPPING WORLD that conditions in the shipbuilding industry make discussions of this sort at industry level unlikely to succeed. Better prospects exist either at yard level (where some yards have at least achieved notable industrial peace), or at national level. The awaited report of the sub-committee of the Shipbuilding Advisory Committee could initiate an approach at national level that might lead to success.

# Current Events

### The New Doxford Oil Engine

THE FIRST PAPER to be read this year before the Institute of Marine Engineers has as its subject the future Doxford marine oil engine. Its author was Mr P. Jackson, director and manager of research and development at William Doxford & Sons (Engineers) Ltd, and it describes the latest type of Doxford engine which it is hoped will form the basis of the production at the company's works for the next two decades. Presented before a large audience, in Mr Jackson's pleasing and rather droll manner, the paper was well received, although the discussion could hardly be described as lively. Among the points raised was the question as to whether the lower piston could be water-cooled instead of oil being used as a coolant, and whether by reducing the stroke of the upper piston (which in the early days of the Doxford engine was the same as the lower piston) the output of the engine was reduced. Mr Jackson pointed out that with any type of cooling system there was bound to be leakage from either the joints of swinging links or from the glands of telescopic pipes. The oil is kept at a low temperature to avoid carbonisation, and since there is no possible chance of water leaking into the lubricating oil system there has not been, and can never be, any case for corrosion. So far as the

reduction in the upper piston stroke is concerned the engine with equal upper and lower piston stroke may give the maximum power per cylinder, but by reducing the upper piston stroke it has been possible to use larger webs and therefore a stronger crankshaft, and there is now better balance and no vibration.

### Future for Normally Aspirated Engine

IT HAS BEEN DECIDED to build the new P type engine, the first of which was seen on test last July (*SW*, 6.7.60), in a range of powers from 3,000 to 18,000 bhp. The smallest engine will have a bore of 560 mm and a combined stroke of 1,750 mm; the next size has a bore of 670 mm and a combined stroke of 2,100 mm, and the largest size a bore of 850 mm and a combined stroke of 2,500 mm. It is considered that the six cylinder engine is best for powers of over 10,000 bhp, having regard to its good arrangement and results from turbocharging, excellent balance, and good torque characteristics; so that two engines of 725 mm and 780 mm bore will be built in six cylinder form only to complete the range. The first P type engine, a turbocharged unit of six cylinders of 670 mm bore, has a maximum output of 11,800 bhp and is now installed in the oil tanker *Montana*, 20,000 dwt, due for sea trials next week. This engine has been subjected to two duration tests of 1,000 hours each, during which period high viscosity fuel was used. Mr. Jackson raised the point that contrary to opinions expressed in some quarters there was still a market for the normally-aspirated engine, and at least one superintendent engineer expressed his entire satisfaction with this type of engine. It would seem obvious that with the possible lack of skilled engineers in the future, and perhaps the not too distant future at that, there will be a high demand for a sturdy, reliable and efficient diesel engine that could, if necessary, be operated with fully automatic controls. And there is no doubt that the new Doxford engine, which is now lighter, shorter and considerably cheaper than the earlier Doxford engine of the same output, will adequately meet this need.

### Aid for More Trawler Owners

IF THE PROPOSALS of the Fleck Committee are accepted by the Government, the range of trawler owners in receipt of assistance from Government funds will be extended to include the distant water trawler owners. Thus the whole of the industry will be in the same position. There cannot have been many previous examples of firms which are earning profits being offered grants like this: it is no doubt in recognition of the fact that the distant water fleets will have to be fairly drastically reorganised if, as seems more than likely, they are before long excluded from a great part of their traditional fishing grounds. If the distant water fleets are to go even further afield in search of fish, existing vessels will need alterations and new vessels will be required. The fact that (if the recommendations are accepted) owners will be able to get a 25 per cent grant towards the cost of new vessels and their equipment will be a considerable inducement to trawler owners to plan boldly for the future and not just try to make do with their existing ships; and this thought will no doubt have occurred with pleasure to shipbuilders concerned with this class of tonnage. As it may well prove that more large factory trawlers or factory ships will be required, the benefits may be spread even more widely through the shipbuilding industry.

### New Techniques on Trial

THE distant water trawler owners are in fact already beginning to move towards the adoption of new techniques. The big factory trawler, developed by the Leith firm of Salvesens, is now being adopted by other British firms. One example, the *Lord Nelson*, was launched last week from the German yard of Rickmerswerft. In this field, of course, the techniques are well known and it is the economics which bear the question mark under present conditions. For the factory ship operating with its own fleet of trawlers, the question mark is attached to the transference of catch between trawler and factory ship in other than calm conditions, and this problem is one facing the project to convert two aircraft carriers into factory ships. It may be solved by some experiments which are shortly to be carried out by Salvesens. This firm has chartered a trawler of normal type, the *Ross Hunter*, and this vessel is to operate off Newfoundland in conjunction with the Salvesen factory trawler *Fairtry II*, with the factory trawler processing the catches of both vessels. A supply of special cod ends has been put aboard the *Ross Hunter* so that these can be passed to the *Fairtry II* with successive catches, and new methods will be tried in an effort to discover the easiest way of transferring fish at sea. It is anticipated that the *Ross Hunter* will be off Newfoundland for 80 to 90 days, a period many times longer than the normal three weeks or so of a distant water trawling trip, though she will put into St John's occasionally for supplies. This length of voyage will become commonplace if fresh fishing grounds have to be sought.

### Clyde Graving Dock

THE CLYDE graving dock project is running somewhat behind anticipated timing, due to the vast amount of preparatory work necessary on a project of such size. The original hope was that a start might be made this month. It is now anticipated that it might well be April or later before construction begins on the £4.25 mn scheme which has taken so long to bring to maturity. Tenders were well advanced in early January and should be available by the end of the month for selected applicants for this work, which embraces a large variety of dock and ancillary facilities in the construction. Meanwhile work has been proceeding to prove the strata of the Greenock area selected for the scheme, and additional borings are being put down. Sponsors are the Firth of Clyde Dry Dock Company, a consortium composed of shipbuilding, engineering and marine engineering interests on the Clyde. They are subscribing a substantial part of the cost, with support from the Treasury to the extent of £2.85 mn.

### The New Geography

IN THE JET AGE the distance between two points is assessed, not so much by a number of geographical miles, as a function of the factors of time and cost. Prospective passengers do not want to know how far their destination is so much as how long it will take and how much it will cost to get there. It is the consideration of these factors which has led to the introduction of Boeing 707s by El Al Israel Airlines on the route between New York and Tel Aviv. This summer there will be a weekly flight by El Al Boeing 707 between these two airports non-stop, a distance of over 5,000 miles, the longest scheduled non-stop flight in the international air service network. Some time ago an El Al Britannia created a record long distance flight over this route. El Al Israel Airlines have been operating Britannias for over three years and Mr Turel, the company's commercial manager for the U.K. and Eire, announcing the introduction of Boeings into the fleet, paid a special tribute to these Britannias, which he described as the finest aircraft in the world for economy, efficiency and passenger comfort. The Boeing 707s, of course, are larger and faster, thus enabling the journey time over long legs to be reduced. After intensive investigation the El Al technical staff decided to order the Rolls Royce Conway-engined version of the

Boeing, which they consider to be by far the best jet engine in operation today for commercial use. As for the cost factor in the new geography, from 1 April next a 23-days' excursion tourist fare will operate between London and Israel at £119 14s during the season and £110 5s in the off-season (November to February), compared to the present normal minimum fare of £141 15s.

### Developments at Leith

LEITH had a most successful year in 1960, handling increased import and export business and maintaining the excellent progress of the postwar years. The attraction of new industry to the dock area has been a cardinal aspect of the work here and has been largely successful. The £1.5 mn spent on improvements is now paying dividends. The most recent example was the decision by Fisons Ltd to make Leith Docks their major Scottish centre. This was achieved by taking a decision to face the realities of the coal trade, by transferring coal business from the north side of the Imperial Dock to the Edinburgh Dock. The space vacated has been given over to commercial and industrial development, of which Fisons are an example. The further development of available land by reclamation of the foreshore to the north of the Imperial Dock is proceeding. Development is also proceeding at the Edinburgh Dock, to allow further location of commercial and industrial activities. In an effort to attract more business the general manager, Mr A. Balfour Kinnear, visited Scandinavia, meeting shipping executives as well as trading interests, to promote their fuller use of Leith as an entry port to the British market.

### Conditions of Carriage

UNLIKE contracts for the carriage of goods by sea, contracts in respect of the carriage of passengers seldom give rise to a dispute before the Courts. The recent case before Mr Justice Streatfield in the Queen's Bench Division is therefore of particular interest. The claimants in this case (*Cockerton* v *Naviera Aznar S.A.*), a man and wife, claimed on the owners of the vessel in respect of injuries alleged to have been suffered when they were passengers in a vessel on a cruise from Liverpool to the Canary Islands, due to heavy seas encountered in the Bay of Biscay. It was alleged that the owners of the vessel were negligent and that the vessel was "unseaworthy" and although this was denied by the owners it was, for the purpose of these particular proceedings, agreed that it be assumed that the owners were negligent and the vessel unseaworthy. Relying on a case in which it had been held that the terms of a notice exhibited in a hotel bedroom, which was not mentioned when advanced payment was made, formed no part of a contract made between the guests and the hotel proprietors, it was argued that in this present case the terms of the exemption clause in the passage contract could not be invoked by the owners as the contract was concluded when the passage money was sent and accepted, at which time the terms of the passage contract had not been made available to the passengers. It was also submitted that the tickets contained onerous exemption clauses to which the attention of the passengers had not been drawn. The Court held that the reservation of accommodation offered and accepted was merely a business deal, that the entire contract did not come into existence until the tickets were issued, and that there was no obligation on the shipowners to do more than they did to draw the attention of the passengers to the conditions embodied in the ticket or to see that they read them. On the question of seaworthiness it was held that there might have been some defects of detail in one room of the vessel but that this did not prevent the vessel from being a good ship and did not amount to any breach of an implied warranty that the vessel was fit to carry the passengers in comfort and safety, as had been alleged. Judgment was delivered in favour of the owners.

*An attractive view of the "Oriana" bunkering at Aden on the outward leg of her maiden voyage. Bunkering at the BP terminal, she took on board 5,000 tons of fuel in four hours*

# ON THE "BALTIC"

## BULK CHARTERING BY GOVERNMENT ORGANISATIONS

**By BALTRADER**

IN SPITE OF the international character of the freight markets and the tremendous variety of ships and cargoes involved, there is nothing ponderous or inflexible about the workings of the markets and they remain remarkably sensitive to the day-to-day fluctuations of supply and demand. Some apparently small item of news about a famine or a surplus, a flood or a drought, can quickly trigger off a chain of reaction which, sooner or later, has its effect on rates all over the world, whereas on other occasions a wave of optimism or pessimism on a particular market may die as quickly as it is born, with no effect on freights at all. For those who wish to keep their ears close to the ground there is no shipping centre in the world more sensitive to freight market trends than London, for through the medium of the Baltic Exchange, where several hundred shipbrokers and chartering agents meet and do business each day, a wealth of freight market information is gathered and passed by cable, telex and telegraph to clients in all corners of the globe.

In recent years there has been an ever growing tendency for chartering to be handled by government agencies, and Russia and the various East European countries all operate in this way. China too is an example of a major charterer working through a government organisation and even a non-totalitarian country such as Australia prefers to entrust most of her wheat chartering to the Wheat Board. No doubt there are some advantages to be derived from placing major chartering programmes in single hands, and in any case in the Communist countries individual firms and merchants do not exist; nevertheless rates probably tend to fluctuate more when major operators move in or out of the market. Shipowners are born optimists and when big monopoly charterers quote new business there is a natural tendency to assume that many ships will be required to satisfy their needs. Incidentally, this is nowhere more noticeable than in the tanker markets where the arrival on the scene of several of the 'major' charterers inevitably leads to an improvement of several points; but, conversely, just as big operators can push markets up sharply when they start quoting, their departure when their requirements have been covered often leads to weakness.

### Politics and Prestige

Of course, in spite of the magical effect that a big government-sponsored charterer sometimes has on a market when he quotes new orders, he usually, like his commercial counterpart, tries to keep the scale of his buying and selling activities a secret in order not to excite the freight markets. However, in these days political and prestige factors often seem to overrule those of good commercial practice, and the scale of a country's future importing and exporting activity is frequently shouted from the roof tops. A good example of this is Cuba, with her well publicised sales of sugar to Russia and China, which encourage owners.

The recent large-scale purchases of Australian grain by China were expected to lead to considerable chartering activity, and this has proved to be the case. Many ships have been fixed with bulk wheat from both the Eastern States and West Australia at rates which were substantially higher than the levels first indicated when charterers entered the market in late December, and in a few cases two consecutive voyages have been arranged. More interesting, however, has been the extent to which the Chinese charterers concerned have concentrated their efforts on timechartering, and many ships have been fixed for periods ranging from 4/7 months to 7/10 months at comparatively high rates of hire. In all cases the charterers were insisting on the owners providing full sets of grain shifting boards, fitted in accordance with Australian grain regulations, but from the minimum period of the charter it is clear that the Chinese have in mind at least two Australian round voyages. Alternatively, of course, they could intend that some of the ships should load first cargoes in Australia and later cargoes on another market such as the North Pacific, for there have recently been rumours that China was negotiating a large grain purchase from British Columbia.

### The Freight Markets

A feature of the markets last week was the active chartering from Australia at fully steady rates and many of the fixtures reported were with grain to China. In the trans-Atlantic trades the *Katia Banck* was fixed with heavy grain from the Great Lakes to the U.K. at the basic rate of 85s, two consecutive voyages in charterers' option, option declarable by February 13, June 1/30, and another forward fixture was that of a Federal Commerce vessel with heavy grain from the Great Lakes to London at $9.60 with 3,000 tons free discharge, option completing St Lawrence at $4.35, May 1/15. The *Sunpalermo* takes heavy grain from the U.S. North of Hatteras to Avonmouth at 43s 6d, option Belfast at 44s 6d, Mersey at 46s, January 28/February 10.

Hampton Roads coal charterers fixed the *Havkatt* to Kawasaki at $8.40 free discharge for April loading, and a vessel was taken for coal from the same loading area to West Italy at $4 free discharge, January 25/February 10. The *Olga* was fixed with sugar from Cuba to the Black Sea at 60s f.i.o. and free taxes for January/February loading, and the *Archon*, 9,500 dwt for cargo, 475,000 cu ft bale, was fixed with scrap from the U.S. Gulf to Japan at $110,000 f.i.o., February 1/8.

On the River Plate market the *Exmoor*, 66ft guaranteed, was fixed with cereals from Up River completing Buenos Aires to Moji/Tokyo range at 92s 6d free discharge, February 1/20, and on the South African market the *Karaghistan* was fixed with maize from Cape Town to the U.K. at 61s 3d, March 10/30. As already mentioned there was much activity from Australia and fixtures included a 14,000-tons vessel with bulk wheat ex silo from West Australia to Dairen/Shanghai range at 60s free discharge, two consecutive voyages commencing January 25/February 15, and *Scottish Monarch* with a similar cargo from West Australia or Sydney to Dairen/Shanghai range at 60s free discharge, one voyage, February 25/March 15.

The North Pacific market was rather quiet but in the East there were one or two fixtures from the Philippines with copra to Antwerp/Hamburg range at 18½ cents per cu ft bale f.i.o. for February/March. Timecharters for Chinese account included *Southwick* (ms), 13,659 dwt, 652,000 cu ft bale, 13½ knots on 18 tons fuel oil plus 1¼ tons diesel, 22s 6d per ton, delivery China mid January, redelivery China, one Australian round voyage, and *East Wales* (ms), 10,135 dwt, 517,000 cu ft bale, 11 knots on 10 tons diesel oil, delivery China in January, redelivery U.K./Continent/Denmark/China, 4/7 months trading.

# NEWS FROM OVERSEAS

**From The Shipping World's Own Correspondents**

## U.S. Rail-Sea Rate Regulation

THE YEAR 1961 opened with unusually good omens for the long-depressed domestic segment of U.S. shipping. On January 5 the Interstate Commerce Commission, for the first time since the introduction of coastwise container shipping, prescribed a rate differential between competing land and water services. In a case involving an attempt by the railroads to lower their rates for "piggyback" containers between the East, South and Southwest to the same level as those of Sea-Land Service, Inc., which operates six container ships between New York and the Gulf, the Commission held that, starting February 6, the rail rates for carrying containers must be 6 per cent higher than the ocean rates. It said "the reduced rates of the railroads here under consideration are an initial step in an overall programme of rate reductions that can fairly be said to threaten the continued operation, and thus the continued existence, of the coastwise water carrier industry generally." The ICC also approved rates of Seatrain Lines for container carriage on the same level as those of Sea-Land.

The decision, a signal victory for the water carriers, who have contended that the near-extermination of Atlantic coastwise shipping in the past two decades was the result of selective rate-cutting by the rails, in contravention of national transportation policy, with the tacit consent of the ICC, comes on the heels of two reports which questioned the whole present arrangement for Federal regulation of transportation. One, made to President-elect Kennedy by James M. Landis, his special assistant in the field of regulatory agencies, called for extensive review of current procedures and for the establishment of a supervisory "coordinator's office". The second, submitted to the Senate by a special staff under Major General John P. Doyle, called for even more sweeping reforms. It called for consolidation into a single transportation commission, responsible to Congress, of the functions now discharged by the Interstate Commerce Commission, the Civil Aeronautics Board, and the Federal Maritime Board. It further recommended the creation of a Department of Transportation at Cabinet level to take over the administrative work now performed in various transportation fields by the Federal Aviation Agency, the Bureau of Public Roads, the Maritime Administration, the St Lawrence Seaway Development Corporation, the Panama Canal Company, the Defence Air Transportation Administration, and the Office of the Under Secretary of Commerce for Transportation. Diffusion of control among too many agencies has been, in the view of both the Landis and the Boyle reports, the primary deterrent to health and growth in the nation's transport structure.

## U.K. Shipping Expert for Ceylon

THE GOVERNMENT OF CEYLON has asked the U.K. Government to help in obtaining the services of an expert to assist in the formation and running of the planned Ceylon merchant marine. The Government recently approved the setting up of a corporation to start Ceylon's merchant marine fleet. A Bill for the purpose will shortly be presented in the House of Representatives. The expert is to advise the Director of the Shipping Corporation on matters connected with merchant shipping, and will revise and prepare the Merchant Shipping Act and help in taking on and training Ceylonese. Recently the Minister said that Poland, Sweden and Yugoslavia were among the countries which had offered Ceylon merchant ships on favourable terms. The ships will be used particularly for carrying food cargoes to Ceylon. The Ministry of Trade has been negotiating with Poland for the supply of the first vessel. All the vessels will be cargo ships.

In connection with the setting up of the shipping corporation, the *Times of Ceylon* commented editorially that considering the sad history of the first Ceylonese venture into the merchant shipping business, the Minister of Shipping would be well advised to seek technical assistance from Britain in setting up and working the proposed shipping corporation. The experience of the two shipping lines that have foundered presented a fund of information as to what should be done and what avoided if the proposed corporation was not to meet a similar fate. Of the necessity for the Government to enter the shipping business there was no longer any dispute. What was necessary was that the foundation of the corporation should be soundly laid, and for that purpose expert advice was indispensable.

## "Some Optimism" from the Netherlands

"PROVIDED that the process of adaptation of the world fleet to the present needs of overseas trade is not interrupted by political or military events, such as Korea and Suez, and the surplus tanker tonnage disappears, Netherlands shipowners face the New Year with some optimism." This is the conclusion of a 1960 review published by the Netherlands Shipowners' Association. It observed that 1960 was "definitely not more disappointing than 1959." On the other side the demand for shipping space increased due to a rise in overseas traffic, while on the other hand the net growth of the world fleet showed a decline as a result of a decrease of orders for the construction of new vessels and an increasing amount of shipping being broken up. According to preliminary figures foreign trade increased by 10 per cent in 1960 as compared with 1959. The transport of some bulk cargoes such as wheat and oil increased and so did the traffic in piece goods, which showed in some cases a rise of 10 to 20 per cent.

After referring "with a great amount of concern" to

*CANADIAN PASSENGER AND CARGO VESSEL*

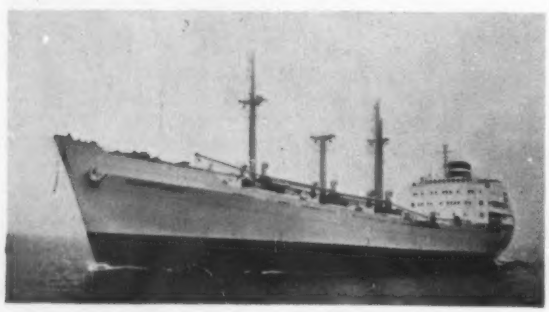
*Built for the passenger and freight service of the Canadian Department of Transport in the waters around Labrador and Newfoundland, the "Hopedale" was completed recently by the Collingwood Shipyards Division of Canadian Shipbuilding & Engineering Ltd. Operated by the Canadian National Railways, the "Hopedale" has accommodation for 77 passengers and crew. The main propulsion consists of two Fairbanks-Morse opposed piston diesel engines each developing 1,100 bhp at 600 rpm. In addition to carrying general cargo the vessel has two compartments arranged for the carriage of refrigerated cargo*

the increasing number of cases of flag discrimination, the Association drew special attention to the danger of the growing Communist fleets. In the middle of 1960 the Soviet Russian fleet had gone up to 3.4 mn grt and in 1965 it is expected to be 5.6 mn grt. It may be true that this is still a small figure as compared with the world fleet, but since 1939 the increase of this fleet amounted to 160 per cent, whereas the fleet of the non-Communist European countries went up by only 50 per cent from 43 to 66 mn grt. In the same period the fleet of the underdeveloped countries in Africa, the Middle and Far East, increased from ½ to 4 mn grt. With regard to the fleet sailing under "flags of convenience" the Association observes that from the middle of 1959 to the middle of the past year the tonnage of this fleet dropped from 16.5 to 15.5 mn grt, because "the power of attraction of the cheap flags has decreased due to the lower returns from world shipping, which made exemption from taxes in the cheap flag countries temporarily lose some of its significance."

The tonnage of the Netherlands merchant fleet increased slightly from 4,494,629 grt on 1 January 1960 to 4,670,213 grt on 1 November 1960. Under construction to Dutch order on 1 October 1960 was 684,900 grt, against 874,600 grt on 1 January 1960. On 1 December 1960 about 2 per cent of the Dutch fleet was laid up, as against 3 per cent of the total world fleet. The 2 per cent of Dutch tonnage laid up includes only tankers, as there are no Dutch dry-cargo vessels laid up. Due to the loss of the trade with Indonesia, 1960 has been for various Dutch shipping companies a period of sometimes drastic reorientation. Generally it can be said that the Netherlands merchant fleet succeeded in holding its own, although it had a difficult time in many areas as a result of flag discrimination and competition. In various trades the load factor was more favourable than in 1959.

## New Orders for Norway

DURING the last week of 1960 and the first of 1961 several new orders for vessels by Norwegian shipowners were announced. Mr Sverre Amlie, Haugesund, has ordered a tanker of 780 dwt from Seutelvens Verksted, near Fredrikstad, for delivery in 1961. A group of shipping companies in Tonsberg led by Mr Georg Vefling has ordered a bulk carrier of 16,800 dwt from Rheinstahl Nordseewerke, Emden. She is to be delivered late 1961 or early 1962. She has been ordered at a fixed price and she is to be fitted with an engine developing about 7,500 bhp, scheduled to give her a service speed of 15.4 knots. Eriksberg Mek. Verkstad has obtained four new orders for Norwegian account. Among these are a tanker of 40,500 dwt and a dry-cargo carrier of 12,600 dwt.



*NEW ENGINES-AFT CARGO SHIP FOR DENMARK*

*The Nakskov Skibsvaerft A/S have delivered the cargo ship "Nordfarer", 10,000 dwt, to D/S Norden, of Copenhagen. The principal dimensions are length b.p. 423ft, length o.a. 462ft 4½in, breadth 60ft and depth to main deck 37ft 6in. Cargo handling gear comprises fourteen 5-tons and one 30-tons derricks. The propelling machinery consists of an eight-cylinder Burmeister & Wain diesel engine, type 862-VT2BF-140, which develops a maximum power of 8,400 bhp at 135 rpm. The speed on trials was 16 knots fully loaded as an open shelterdecker*

An interesting order is from Shun Cheong Navigation Co Ltd, Hong Kong, for Moss Vaerft & Dokk. It is for a cargo liner of 6,150 dwt to be fitted with a Burmeister & Wain engine developing 4,900 bhp at 170 rpm. The vessel is to be delivered in the fourth quarter of 1962. It is the first time since the war that a shipping firm in Asia has ordered a vessel at a Norwegian yard. Most of the vessels which have been delivered from Norwegian yards to foreign owners have originally been ordered by Norwegian firms and sold during the building but in such cases the building has been supervised by the Norwegian companies. Those few cases when a foreign firm has ordered at Norwegian yards have mostly been for Swedish or British account, except in one instance when an Australian firm ordered a vessel at Nylands Verksted.

Harry Borthen & Co A/S, Oslo, have converted their contract for a tanker of 36,000 dwt at Marinens Hovedverft, Horten, to one of 50,000 dwt. She is to be fitted with an engine which will be built by the yard. Delivery will take place in 1964 and the vessel is to be built in the new dry dock which is now under construction and which will be completed in the autumn of 1962. The largest vessel so far built by the yard is of 19,600 dwt.

Pusnes mek. Verksted, near Arendal, which since the war has built a few small vessels, will now intensify its production of winches. For some time the firm has been producing steam winches, but will now take up series production of winches and the production of parts of automatic machinery used on board ship. In order to make this changeover the firm has obtained a loan of Kr500,000 from a Government Industrial Fund.

## Largest Norwegian-built Ship

ON JANUARY 7 the largest vessel so far built in Norway was floated. She is a tanker of 50,000 dwt being built by Rosenberg Mek. Verksted, Stavanger. As with the first 33,000-dwt tanker, Rosenberg is the first Norwegian yard to launch a vessel of this size. The tanker, which is being built for Sigval Bergesen d.y. & Co, is the first in a series of four or five. The keel was laid on 7 January 1960, when the new dock to take vessels of up to 80,000 dwt was inaugurated. Immediately after the dock was emptied following the "launching" of this first tanker, the keel was laid of the next one of 50,000 dwt which is to be floated out some time this autumn. In other words the building of the second tanker will take much less time than the first one. In addition to delivery of the first tanker of 50,000 dwt, which will take place in May, a 33,000-dwt tanker will be launched in that month and delivered some time in the autumn. The 50,000-dwt vessel will be fitted with a diesel engine of B & W make developing 23,000 ihp, which is expected to give the tanker a speed of 16.5 knots loaded. The engine will drive a single propeller with a diameter of about 23ft and a weight of 36 tons. This propeller has been bought in the Netherlands at a cost of Kr400,000.

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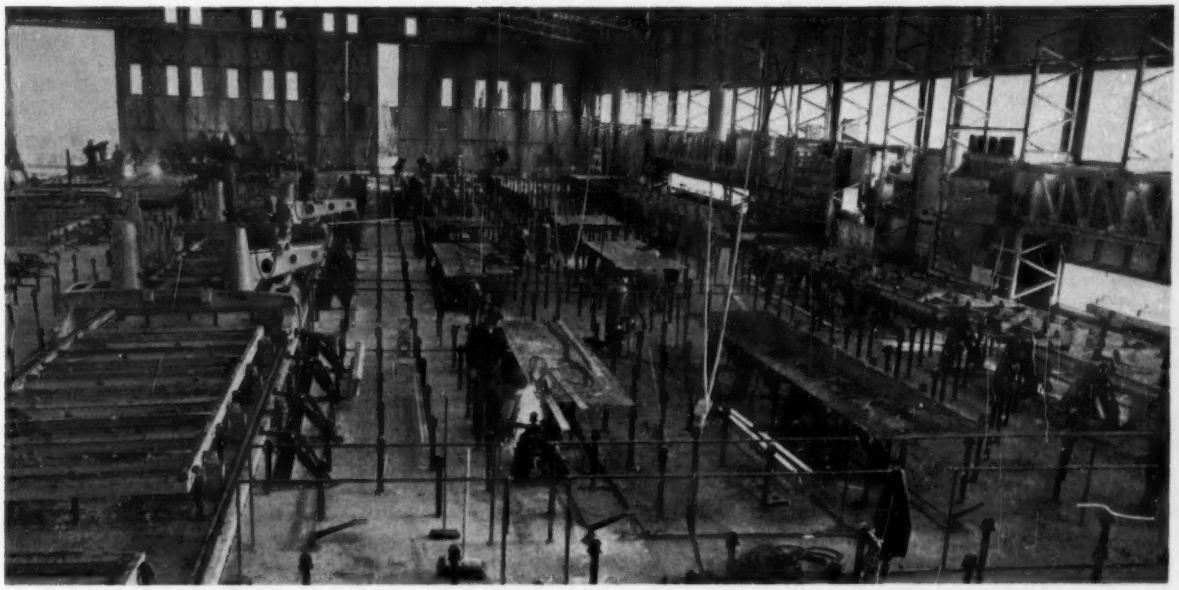
THE U.S. Federal Government, through its Office of Civil and Defense Mobilisation, has held that there is no justification on national security grounds for the plea of U.S.-flag independent tanker operators that they should be allocated 50 per cent of the nation's petroleum import cargoes.



# New Plate Preparation Shop

## WEAR SHIPYARD RECONSTRUCTION

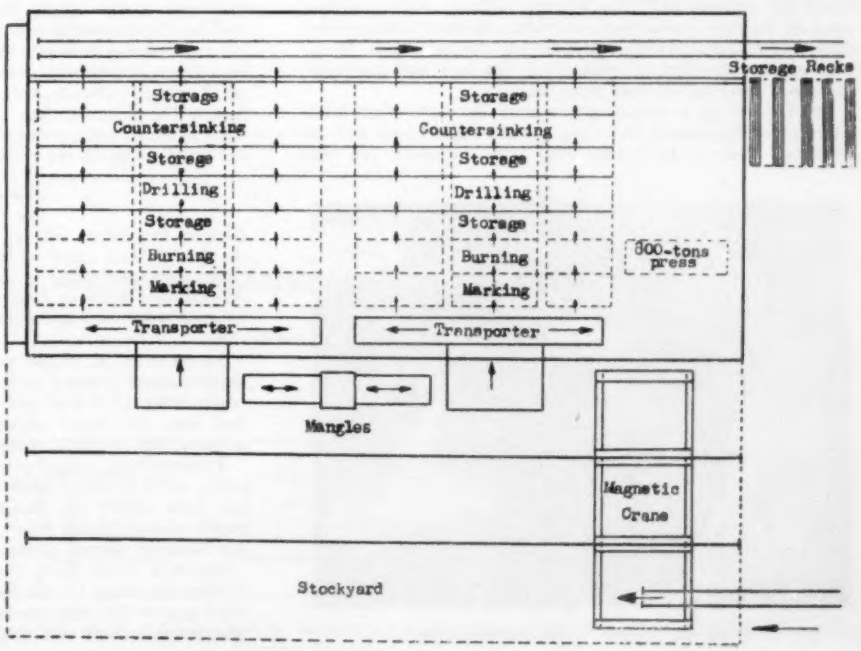
A PLATE PREPARATION SHOP designed on principles which combine simplicity and low capital cost has been completed at the Sunderland shipyard of Short Brothers Ltd. The firm was responsible for the design and, apart from the foundation work, for the building of the new shop. Much of the material used to equip it was manufactured, or was readily to hand, in the shipyard itself.

The effect of the development is to enable a foreman and 20 workmen, including two crane drivers, to prepare steel plates, ranging from ¼in to 1½in in thickness and weighing up to 3¼ tons, at a steady rate of more than 10,000 tons per annum, working a single shift and a 42-hour week. At present 80 to 85 per cent of all the shipyard plates go through the shop, and eventually a total of more than 90 per cent will be achieved.

Pallion shipyard is intended primarily for building dry-cargo ships of the shelterdeck, ore or bulk carrier type up to 22,000 dwt, although the construction of smaller specialised ships, such as bulk cement carriers, is under consideration. The shop and its method of handling the plates were evolved to meet these particular requirements, and to provide for a certain amount of riveting if wanted by owning companies.

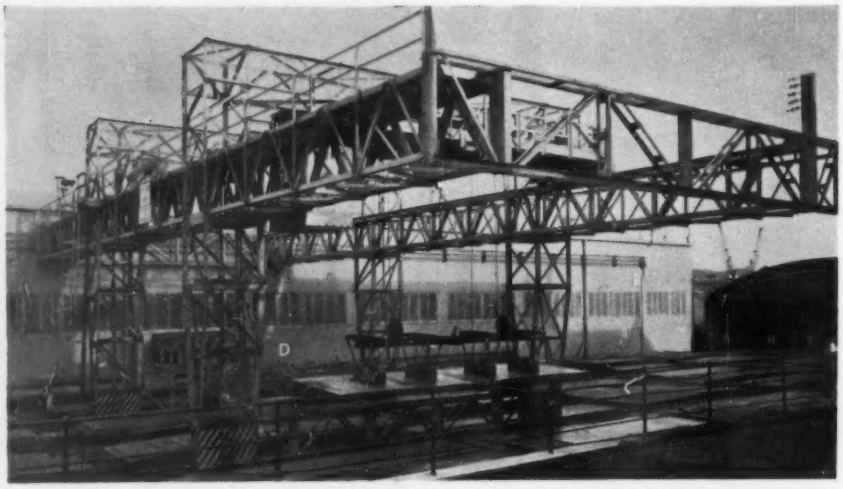
Adjoining the shop is a stockyard 240ft by 90ft, marked off for various sizes of plates. It is served by an overhead Goliath electro-magnetic crane which unloads railway wagons and supplies plate as required to the levelling rolls from which it enters the ship proper through one or other of two slots.

The layout and equipment of the shop is designed to achieve results with the greatest simplicity and the least cost. Plates are moved under their own weight by means of a system of inverted castors—more than 800 of them—set on a declivity of ½in to the foot. Acted on by




*ABOVE : A general view of the new shop*

*RIGHT : Diagram showing layout and material flow*



*The electromagnetic stockyard crane*

gravity, the plates move through the various stages of preparation. They roll on the castors into the shop and on to one of two transporters, each of which serves three processing bays. By pneumatic control the transporter can be elevated slightly to make the plate travel along the selected bay. Rubber and nylon are used to reduce the shock impact of heavy plates where necessary. At each bed in the process—the marking, the burning, and (if riveting is wanted) the drilling and the countersinking—the movement of the plate is arrested by a simple foot-operated mechanical trigger, and stoppers and castors are protected by raising the bed on pneumatic jacks. When the operation is completed the plate is removed by crane to storage racks at the head of the building berths.

Single-head Bantam burners and three-nozzle burning machines serve the bays, and with counterweighted pulley systems and safety devices these can be handled by one man. Electric current and other services are piped through the shop in ducts in the flooring.

Foundations have been laid recently in this shop to carry an 800-tons press, which is to be installed early in 1961. This press, which will have its own slot from the stockyard and will be served by two powered jib cranes, will trough bulkhead plates up to 30ft in length, swedge light superstructure plates, flange girder plates, and turn mast plates in one complete circle. The work described represents a stage in the gradual modernisation of the yard. The company recently brought into service a new fitting-out quay, and the building berths are now being reconstructed prior to the introduction of new cranage.

## RADIO FOR LIFERAFTS

### Portable Transmitter/Receiver

A PORTABLE radio transmitter/receiver, produced by Clifford & Snell Ltd, is being marketed by The Marconi International Marine Communication Co Ltd. Known as the "Lifeline," it has been designed specially for use in inflatable liferafts, for which the normal lifeboat radio would be too large and heavy for convenience. The Lifeline provides radiotelephone (speech) facilities on a frequency of 2,182 kc/s, which is the distress frequency for transmissions of this sort. For Morse transmissions the distress frequency is 500 kc/s, and this is the frequency used for lifeboat radio sets.

The Lifeline set is contained in a glass fibre case which holds all essential equipment, including the telescopic aerial and the telephone handset. It is only 17in long, 7in wide, 5in high and weighs less than 20 lb. The case is watertight and buoyant, and is coloured a brilliant yellow for easy identification in the water.

On board the raft the equipment is strapped to the operator's knee, the aerial erected, earth wire dropped overboard and within 20 seconds of first turning the generator handle transmission can begin. Two controls only are necessary—one selects either normal speech or an automatically transmitted two-tone alarm signal; the other tunes the transmitter to optimum performance indicated by a glowing lamp. The operator then presses a switch in the handset to speak and releases it to listen. Transistors have been used extensively in the design of "Lifeline's" circuits, reducing both bulk and power requirements. The generator has been designed to require very little turning effort, and operation of the Lifeline should not impose too great a tax on the strength of a survivor.

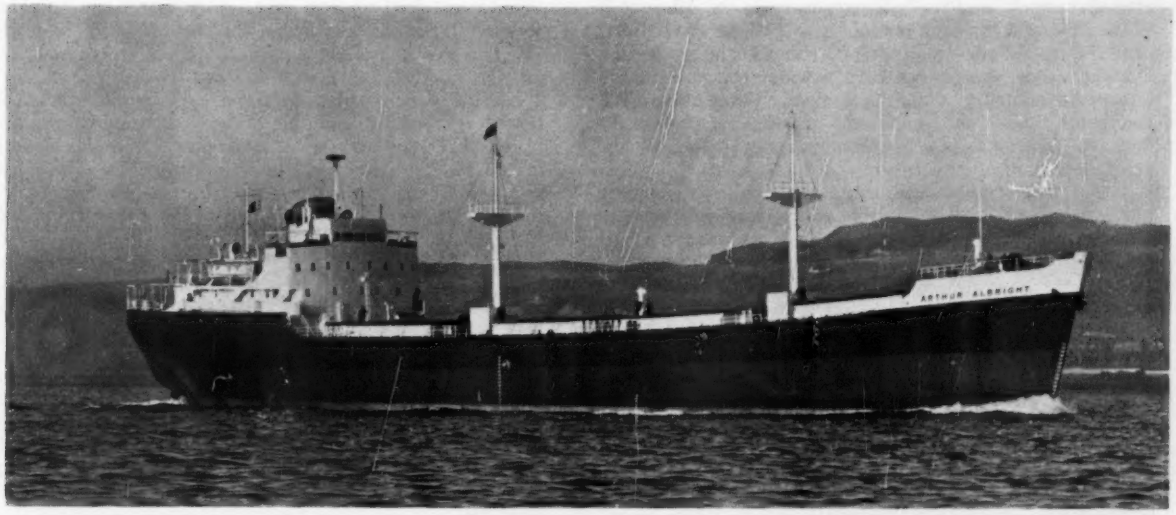
*Using the "Lifeline" transmitter/receiver*

DURING her recent refit at Harland & Wolff's, Southampton, the Royal Mail Lines' cruise liner *Andes* was fitted with the "Toxion" anti-fouling system. The external pipework and anodes were fitted in four days in drydock and the remaining internal work was completed when the vessel returned alongside.

BURMEISTER & WAIN and licensees in 1960 built large marine diesel engines with a total output of 1,018,000 bhp, representing 27.99 per cent of the world production. It is the first time any diesel engine manufacturer and licensees has achieved this production figure.

THE LARGEST single consignment of steel billets ever to arrive at a Bristol Channel port arrived at Newport, Mon, last week aboard the *Bahama Count*. The cargo, which consisted of over 50,000 billets weighing 12,245 tons, was secured for Newport despite strong competition from other ports.

EXPORTS from Haifa Port in 1960 totalled 930,000 tons. During the year, 1.7 mn tons of imports were unloaded. The 1960 export list was headed by citrus, followed by cement, phosphates, potash and fertilisers.




# The "Arthur Albright"

## BULK CARRIER FOR PHOSPHATE ROCK

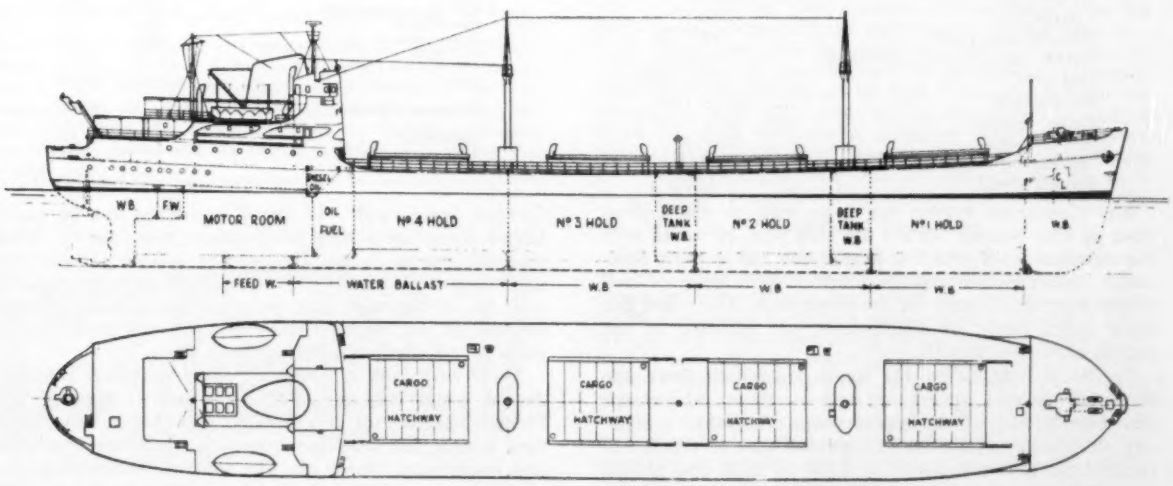
ONE OF the first ships built specifically for the carriage of phosphate rock was delivered recently to A. & W. (Overseas Developments) Ltd, Hamilton, Bermuda, one of the companies of the international Albright & Wilson chemical group. The vessel, the *Arthur Albright,* 10,275 dwt, has been built by the Burntisland Shipbuilding Co Ltd. She was named before launching by Mrs S. Barratt, wife of the chairman of Albright & Wilson Ltd, on 5 September 1960. The builders have considerable experience in the construction and design of bulk carriers for a wide variety of trades, and the order was obtained against competition from shipyards in Germany, Holland, Denmark and France.

The new ship will carry phosphate rock from Tampa, Florida, and from North African ports. She is so dimensioned that she is able to enter Portishead, Bristol Channel, with the maximum allowance of cargo for that port. On her maiden voyage the *Arthur Albright* has sailed for Tampa to load phosphate rock for discharge at Birkenhead. She is expected to operate mainly from the phosphate loading berths in Florida.

A. & W. (Overseas Developments) Ltd will be responsible for the carriage of many thousands of tons of

**PRINCIPAL PARTICULARS OF THE "ARTHUR ALBRIGHT"**

| | |
|---|---|
| Length o.a. ... ... ... ... | 414ft |
| Length b.p. ... ... ... ... | 390ft |
| Breadth, moulded ... ... ... | 57ft 2in |
| Depth, moulded ... ... ... | 36ft |
| Draught ... ... ... ... | 28ft |
| Deadweight ... ... ... ... | 10,275 tons |
| Gross tonnage ... ... ... | 6,620 tons |
| Net tonnage ... ... ... ... | 4,020 tons |
| Machinery output ... ... ... | 3,300 tons |
| Service speed ... ... ... | 12½ knots |




*Profile and plan of the bulk carrier "Arthur Albright," 10,275 dwt, built by the Burntisland Shipbuilding Co Ltd, for A. & W. (Overseas Development) Ltd, Hamilton, Bermuda*

phosphate rock used in Britain every year by Albright & Wilson (Mfg) Ltd, who produce phosphorus at Oldbury, near Birmingham, and at Portishead, near Bristol. Derivatives of phosphorus have a wide range of uses in industry, including metal treatment, water treatment, detergents, lubricant additives, plasticisers, foodstuffs, dentrifice and matches, to mention only a few of the most important.

The *Arthur Albright* has been built with her machinery and accommodation aft, and is of neat appearance with a raked soft nosed stem, cruiser stern and squat superstructure. For the carriage of heavy cargoes the structure of the ship has been specially strengthened. There are four cargo holds and two deep tanks, one between Nos 1 and 2 holds and the other between Nos 2 and 3 holds. Hold and deep tank bulkheads are of corrugated construction and the holds are clear of obstruction and hoppered, with large steel hatchways, to enable grab discharge to be used. Paints and compositions supplied by International Paints Ltd include silver Primocon, International No II tropical and Episeal red lead and boottopping red oil.

The four hatchways are each 30ft wide and have watertight folding steel hatchcovers supplied by the MacGregor organisation and operated by 3-tons winches. To facilitate the installation of cargo handling gear, should this be required at any time, space has been provided between the four hatchways for the fitting of winches. The two steel masts fitted with outriggers are suitable for the shipping of four 5-tons derricks.

All the accommodation has been arranged aft. The layout is compact and the rooms are suitably grouped round the machinery space casing on the weather deck in the superstructure and in the tweendecks. An interesting feature of the accommodation is the placing of the dining saloon at the after end of the poop deck, abaft the deck and engineer officers' quarters; the adjacent pantry is equipped with a food lift with direct service from the galley below. The captain's suite together with two well-furnished owners' staterooms are on the boat deck. Navigational aids include Decca D606 radar.

The *Arthur Albright* is propelled by a four-cylinder Hawthorn-Doxford oil engine of 600mm bore and a combined stroke of 2,320mm, having an output of 3,300 bhp. Electricity for power and lighting is supplied by three diesel-driven DC generators. The main and auxiliary machinery has been installed by the engineering department of the Burntisland Shipbuilding Co Ltd. The lubrication of the ship has been awarded to Shell-Mex & BP Ltd. Lubricants being supplied for the main engine cylinders and crankcase are Alexia Oil A and Shell Talpa Oil 30 respectively.

# The "Concordia Viking"

## SWEDISH-BUILT CARGO LINER FOR NORWEGIAN OWNERS

THE Swedish shipbuilders A/B Oskarhamns Varv, Stockholm, have recently delivered a cargo liner to Skibs A/S Samuel Bakke, Haugesund, Norway. This vessel, the *Concordia Viking*, 11,500 dwt, has been specially constructed for the general cargo trade from the American East Coast ports to the Persian Gulf, via the Mediterranean. The vessel has accommodation for twelve passengers and can carry, in addition to general cargo, fruit and chilled cargo.

The principal particulars of the *Concordia Viking* are as follows:—

| | |
|---|---|
| Length o.a. | 492ft |
| Length b.p. | 450ft |
| Breadth, moulded | 68ft 2in |
| Depth, moulded to upper deck | 40ft 6in |
| Draught | 28ft 10in |
| Deadweight | 11,500 tons |
| Gross tonnage | 9,500 tons |
| Net tonnage | 5,893 tons |
| Machinery output | 8,450 bhp |
| Service speed | 17 knots |

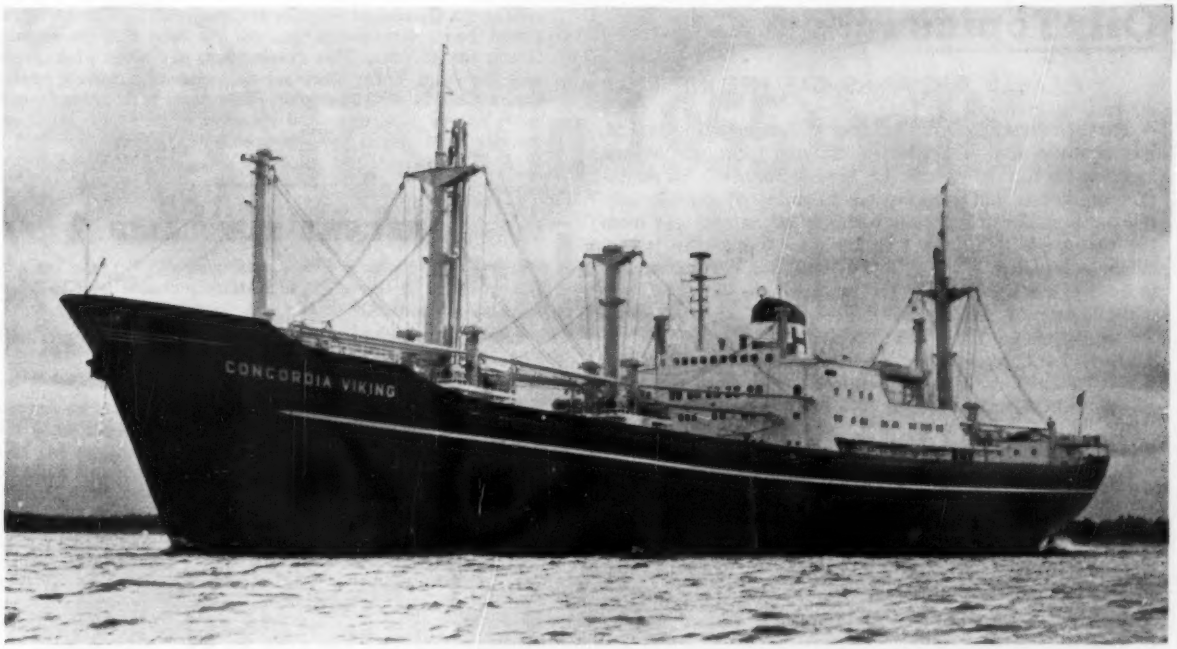
The *Concordia Viking* has been built to the highest class of Det Norske Veritas for this type of vessel with the notation +A1, "F," +KMC. She has a short forecastle, superstructure amidships and a short poop of half height with deckhouses on the poop deck. There are five main cargo holds, of which three are forward of the engine room and two aft.

In No 1 hold below the upper tweendeck there are three refrigerated spaces as well as three refrigerated chambers in way of the engine room, altogether a capacity of 63,900 cu ft. The refrigerated spaces, which are suitable for the carriage of all kinds of fruit and chilled cargoes, are cooled by machinery operating with Freon 22 as a refrigerant. A temperature of −25 deg C in the forward spaces and −30 deg C amidships can be maintained when the outside temperature is 40 deg C. Abaft the engine room in No 4 hold there are deep tanks port and starboard of about 35,000 cu ft capacity for the carriage of vegetable oil: they are also suitable for the carriage of dry cargo. The other dry cargo holds have a capacity of about 575,000 cu ft of grain.

There are four self-staying masts and two pairs of derrick posts. The cargo handling gear consists of one 75-tons, one 30-tons, ten 10-tons, eight 5-tons and one 3-tons derrick, the latter being used for handling provisions and engineroom spares etc. The winches and capstans are of Thrige manufacture and are electrically driven. The weather deck hatches are covered by MacGregor steel

**CARGO SPACES**

| *Compartment* | *Grain* | *Bale* |
|---|---|---|
| Strong room | 4,690 | 4,280 |
| Strong room | 4,690 | 4,270 |
| No 1 upper tweendeck | 28,530 | 26,050 |
| No 2 upper tweendeck | 55,300 | 51,710 |
| No 2 lower tweendeck | 36,750 | 31,910 |
| No 2 hold | 81,750 | 73,310 |
| No 3 upper tweendeck | 38,340 | 35,650 |
| Strong room | 3,210 | 2,820 |
| No 3 lower tweendeck | 34,060 | 29,430 |
| No 3 hold | 76,700 | 69,220 |
| No 4 upper tweendeck | 47,590 | 45,260 |
| Strong room | 4,020 | 3,600 |
| Strong room | 3,740 | 3,310 |
| No 4 lower tweendeck | 36,000 | 31,060 |
| No 4 hold | 34,240 | 29,150 |
| Deep tank, S | 17,820 | 15,540 |
| Deep tank, P | 17,220 | 14,810 |
| No 5 upper tweendeck | 41,470 | 38,490 |
| Strong room | 5,010 | 4,340 |
| Strong room | 4,970 | 4,300 |
| No 5 hold | 33,810 | 29,080 |
| Total | 609,910 | 547,580 |
| Refrigerated compartment | — | 63,900 |
| Grand total | 609,910 | 611,480 |




*The "Concordia Viking," 11,500 dwt, out on sea trials off Stockholm*

single-pull covers, while the tweendeck hatches are of wood.

The latest navigational aids have been installed and include radar, gyro compass, auto pilot, echo sounder and SAL log. Hastie electro-hydraulic steering gear of four-ram type has been installed.

The accommodation in the *Concordia Viking* is of the usual high standard to be found in Scandinavian ships. In addition to the crew accommodation there are cabins for twelve passengers, six in three double-berth cabins and six in single-berth cabins. Cabins for the passengers and the officers are placed in the midships superstructure, where there are also messrooms and the galley.

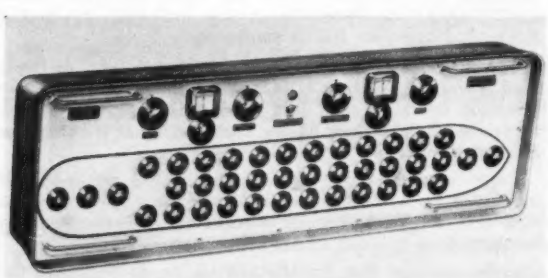
On the poop deck and in houses on the poop deck there are cabins for the crew as well as a dayroom and laundry. On the boat deck amidships there is a large swimming pool. The accommodation is air conditioned, and the holds and engine room are supplied with air by electric motor-driven fans.

The main propelling machinery consists of a nine-cylinder two-stroke single-acting diesel engine of Götaverken design arranged for operation on heavy fuel. The engine has cylinders of 760mm bore and 1,500mm stroke and develops 8,450 bhp at 112 rpm. The three auxiliary diesel engines, each of which is direct-coupled to a 325-kVA alternator, are of M.A.N. manufacture and develop 375 bhp at 375 rpm. The supply is 440 volts, excepting for lighting, where 220 volts is used.

## SPERRY-SINTEF LOADING CALCULATOR

### Determination of Correct Load Distribution in Ships

THE SOLE manufacturing and selling rights for the Norwegian Sintef loading calculator have been obtained by Sperry Gyroscope Co Ltd, Brentford, Middlesex. This instrument has been designed with the object of avoiding hull damage in tankers and cargo ships due to the incorrect distribution of cargo, and the first British ship to be fitted with it is a tanker, the *Orlando* (*SW*, 3.1.61).



*Each tank compartment has a tonnage-setting knob*

The calculator is a robust electrical computer, not employing valves, built up from standard sub-assemblies; these are neatly presented for bulkhead mounting in the deck office in a shallow cast alloy case, the length of which is dependent on the size of ship, or, more precisely, on the number of athwartships bulkheads dividing up the hull. Power requirements are met entirely from ship's mains and no maintenance is required in service. Each calculator is calibrated prior to installation having regard to the ship's characteristics. Sperry are offering the new equipment in three standard sizes covering the needs of most types of vessel. Special requirements can also be met.

#### Method of Operation

Operation of the calculator is self-evident from the layout of the faceplate which contains an engraved ship's plan showing cargo compartments (each with its own tonnage-setting knob) surmounted by (left) a selector switch, associated mean draught and shear stress-setting knobs, and a balance meter used in "zeroing," with (right) similar arrangements for obtaining trim and bending moment. Trim, bending moment, mean draught and maximum shear stress can be deduced in quick sequence by following a few simple instructions; in essence, these amount to setting on cargo tonnage values for each compartment, selecting the information required (starting with trim) adjusting the setting knob to obtain a zero reading on the balance meter and reading off the "answer" against the appropriate graduated dial.

# Oil Topics

## FLEXIBLE SUBMARINE GAS PIPELINE

A BRITISH FIRM, British Insulated Callender's Cables Ltd, has received a contract worth $7 mn from the Magna Pipeline Co Ltd of Vancouver, British Columbia, to manufacture, install and commission 53 miles of flexible submarine pipeline to transmit a supply of natural gas from the mainland of British Columbia to Vancouver Island. When completed in 1963, this installation will constitute the world's longest flexible submarine gas pipeline. The manufacture of the flexible pipe will be undertaken by British Insulated Callender's (Submarine Cables) Ltd at Trafford Park, Manchester, and the installation by British Insulated Callender's Construction Co Ltd, both members of the B.I.C.C. Group.

### Developed from Pluto

THE proposed pipeline is a development of the H.A.I.S. pipeline made during the war for Operation Pluto, to which the companies now concerned made a notable contribution. These pipelines carried petrol under the English Channel during the Normandy landings in 1944. The flexible pipeline for the Magna Company is also a development of the supervoltage submarine power cable pioneered by the B.I.C.C. Group: its design follows closely the H.A.I.S. principles and high voltage cable making practice. Cable making plant will be used for its manufacture, and it will be laid by similar equipment to that which is used for deep sea submarine telegraph and telephone cables and, more recently, electric power cables. The system now ordered consists of two flexible pipes laid adjacently. Each pipe will have an external diameter of 7.5in and will operate at a gas pressure of 1,500 lb/sq in. The maximum depth of laying will be about 810ft.

### An Israeli Oil Company

THE PAZ OIL CO LTD, of Haifa, which was founded as Shell Company of Palestine Ltd 38 years ago and became an Israeli enterprise in 1958, is now the largest local company for the marketing of petroleum products. Sales turnover during the last financial year reached I£19 mn. Paz imports and refines at the Haifa refineries about 45 per cent of the total crude oil imported into Israel. At the same time, Paz is the largest importer of lubricating oils, supplying more than 50 per cent of total domestic requirements. The company is participating in Tankers Services Ltd and owns a third of that firm, which it has established jointly with other petroleum importing companies for the chartering and transportation of oil to Israel. Tankers Services moved some 2 mn tons of oil last year. In the 16-in Eilat-Haifa pipeline the Paz Company is participating to the extent of over $1 mn, out of a total investment of $21 mn. This pipeline is at present moving some 1,300,000 tons of crude oil a year, of which the share of Paz is just under 50 per cent.

### Shorter Notes

PROGRESS is being made with the fitting of 150 tankers of the fleet of BP Tanker Co and its associates with the Decca Navigator. At present about 60 ships have been fitted, vessels in service being fitted as they are dry-docked, and it is expected that the remainder will be equipped by June, just a year after the decision to fit the fleet was announced. The vessels are being fitted to enable them to make use of the two new Decca chains which will before long give good coverage throughout the Persian Gulf. The three southern stations were recently switched on for the first time, and the three northern stations are due to be put into service soon.

E. A. GIBSON & CO LTD has issued reprints of an article which appeared in the *Hunting Group Review* last year describing the Gibson oil interests in Canada. Its author, Mr W. H. Green, heads these companies, and has been with the Hunting Group for 45 years. This development has taken place in the past five years. Today there are five companies actively operating in Canada with the name Gibson in their title, four of them located in Calgary and engaged in the oil business, and the fifth in Montreal and concerned with shipping.

## RECENT SHIP SALES

PASSENGER AND CARGO LINER *Jadotville* (13,790 grt, built St Nazaire 1956 by Chantiers de l'Atlantique) sold by Cie. Maritime Belge to P & O-Orient Lines for about £1.5 mn.

Passenger and cargo liner *Baudouinville* (13,922 grt, built Hoboken 1957 by S.A. Cockerill-Ougree) sold by Cie. Maritime Belge to P & O-Orient Lines for about £1.5 mn.

Cargo steamer *City of Doncaster* (ex-*Samshire*, ex-*Samara*, launched as *Emma Lazarus*, 10,657 dwt, 7,258 grt, 4,450 nrt, built Baltimore 1943 by Bethlehem Fairfield Shipyard) sold by City Line Ltd to Hong Kong buyers for about £100,000 "as is" with no drydocking, and survey due. She will give delivery West Coast U.K. end-January/early February.

Cargo steamer *Mahsud* (ex-*Southwick*, ex-*Tavistock*, ex-*Fort Enterprise*, 10,384 dwt, 7,164 grt, 4,290 nrt, built Vancouver 1943 by West Coast Shipbuilding Co Ltd) sold by T. & J. Brocklebank Ltd to Hong Kong trading buyers for £66,500 and to be renamed *Marine Traveller*, with prompt delivery Calcutta.

Cargo steamer *Cambridge* (ex-*Wolna Polska*, ex-*Cambridge*, ex-*Dorothy Stevenson*, ex-*George W. Kendall*, 11,000 dwt, 7,151 grt, 4,374 nrt, built New Orleans 1943 by Delta Shipbuilding Co Inc. and converted from a tanker 1949) sold by Cambridge Steamship Corporation, Monrovia, to the Yiming Navigation Co, Formosa, with U.S. Maritime Administration approval. She is already lying at Kaohsiung.

Motor vessel *Bjorn Clausen* (2,155 dwt, 1,586 grt, 672 nrt, built Aalborg Vaerft 1949) sold by C. Clausen D/S A/S, Haderslev, to French buyers and to be renamed *Les Annasers*.

Cargo steamer *Lilian Dan* (ex-*Lilian Lau*, ex-*Lilian*, ex-*Lilian I*, ex-*Lilian*, 1,970 dwt, 1,366 grt, 737 nrt, built 1924 by Kieler Howaldtswerke) sold by J. Lauritzen, Copenhagen, to C. H. Ericsson, Helsinki, and to be renamed *Heangura I*.

Twin-screw motor tanker *Alster* (ex-*August Weitert*, ex-*Jobure*, 4,520 dwt, 3,917 grt, 2,139 nrt, built Hingham, Mass., 1944 by Bethlehem-Hingham Corp.) sold by August Schmidt, Hamburg, to Argentine buyers with delivery Hamburg, and renamed *Magalanes*.

Motor tanker *Slemdal* (13,600 dwt, 8,992 grt, 4,875 nrt, built 1955 by A/S Fredriksstad M.V.) sold by A/S Moltzau's Tankrederi (Moltzau & Christensen) to other Norwegian buyers for £375,000 including a time charter at 30s until December 1961. She will be renamed *Fossland*.

Cargo steamer *Turno* (ex-*Mimmo Ievoli*, ex-*Valprato*, ex-*Lee Sang*, ex-*Teo Pao*, 1,595 grt, 959 nrt, built Lubeck 1907 by Schpsw. v. H. Koch), sold by "Flumar" Traffici Marittimi e-Fluviali, Rome, to Italian shipbreakers.

Cargo steamer *Acilia* (ex-*Albatros*, ex-*Otto Leonhardt*, ex-*Arethusa*, ex-*Darneholm*, 3,975 grt, 2,872 nrt, built Sunderland 1911 by R. Thompson & Son Ltd) sold by Raffaele Romano, Naples, to Italian shipbreakers.

Cargo steamer *Flora Nomicos* (ex-*Nicolas Jean*, ex-*Depute Paul Proust*, 1,783 grt, 1,064 nrt, built Cherbourg 1921 by Ministére de la Marine) sold by Loucas Nomiscos, Piraeus, to Bombay shipbreakers having been laid up at Bombay since November 1958.

Cargo steamer *Fogdo* (ex-*Roslagen*, 1,853 grt, 1,064 nrt, built 1925 by A/B Lindholmens-Motala Varv) sold by Rederi A/B Rex (Ragnar Kallstrom), Stockholm, to Gothenburg shipbreakers.

Cargo steamer *Aco* (ex-*Manx King*, ex-*Andwi*, 2,820 dwt, 1,926 grt, 1,056 nrt, built 1947 by J. Crown & Sons Ltd)

(*Continued on page 128*)

CALTEX

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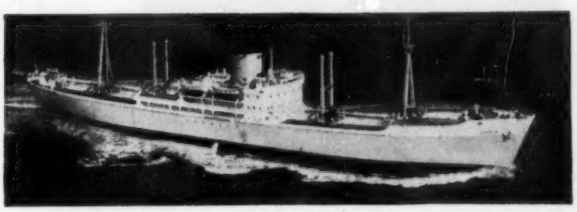

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# Novel Cargo Handling Equipment

## THE ALGONQUIN LOADER/UNLOADER

TWO WELL-KNOWN British firms have produced a new idea in cargo handling equipment—self-discharging equipment for bulk carriers which can be adapted for the handling of containers, thus offering a new element of flexibility to tramp shipowners. This equipment, known as the Algonquin loader/unloader, represents a new approach to the application of mechanisation to cargo handling. The development work on this new piece of equipment was undertaken by Clarke, Chapman & Co Ltd and MacGregor International, together with mutual interests, and it is being manufactured by Clarke, Chapman & Co Ltd. Several sets of equipment are on order.

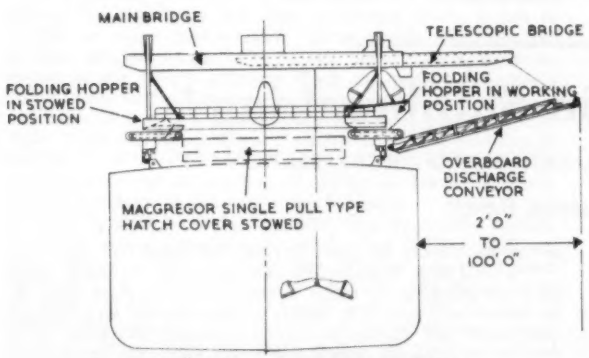
The Algonquin equipment is available in versions with capacities from 200 to 500 tons per hour. Sketches of its various forms are shown in the diagrams below, and these are largely self explanatory. Algonquin equipment can be fitted to new or existing ships regardless of type, and it can be adapted to handle bulk, palletised, or containerised cargoes.

The main feature of the equipment is a telescopic conveyor which will discharge at any point between 10ft and 100ft from the ship's side. This conveyor is supplied from a vibratory feeder. This type of vibratory feeder, which will transport semi-solid materials, such as coal, ore or powders, on an upward gradient, is finding rapidly increasing application ashore, but hitherto has been adopted to only a very limited extent on board ship. Cargo taken from the hold is traversed athwartships and discharged over the side or into a hopper on the main bridge structure of the equipment, where the vibrator will feed the material on to the conveyor for discharge ashore. The conveyor is attached to the bridge, and will carry the material from the vibrating feeder to the discharge point on the quay. The conveyor and its structure are detached from the bridge for stowage on deck.

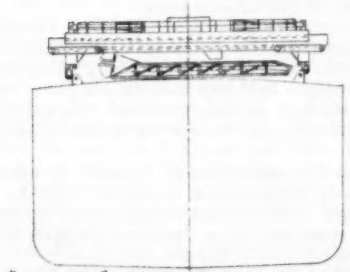
A Priestman walking-type grab is normally used for handling bulk cargoes, so that they can be recovered from sections of the hold remote from the hatch without the use of bulldozers. Grain, sugar, salt, bauxite, alumina, iron ore, coal, phosphate, gypsum and even scrap iron can be loaded from or into trucks, railway wagons or barges; while those products, such as alumina, phosphates and fertilisers, which are affected by water, can be loaded or discharged in wet weather, as the whole equipment can be covered with a canvas awning.

The carriage of cargo in containers is increasing and in order to handle bulky containers a special type of shipboard mounted gantry crane has been developed. Recent experience with such vessels has shown that with this innovation a vessel of 7,000/10,000 dwt can be loaded or discharged within 60 to 70 hours, whereas it took over a week previously. Drawing on this experience, what has now been done is to expand equipment of this basic type, so that any type of container, unitised, or palletised cargo can be handled as well as dry bulk cargoes.

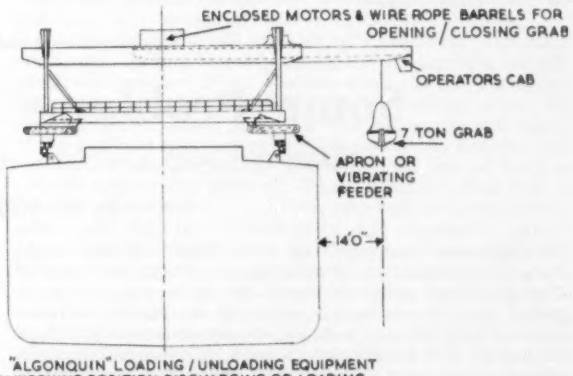
With such equipment it becomes apparent that a bulk carrier can be transformed into a very useful type of vessel capable of handling any type of cargo at a rate superior to that possible with the burtoning system or even deck mounted cargo cranes.



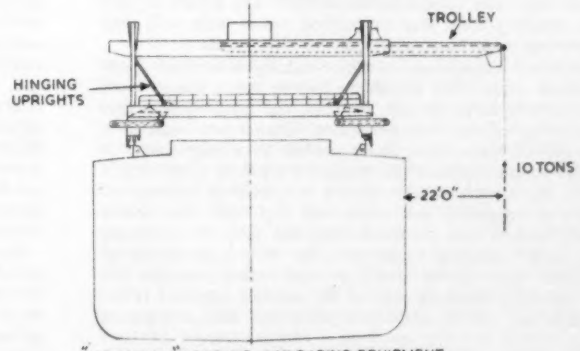

"ALGONQUIN" LOADING/UNLOADING EQUIPMENT IN WORKING POSITION DISCHARGING BULK CARGO VIA OVERBOARD DISCHARGE CONVEYOR
DISCHARGE CAPACITY 500 TONS/HR.
OTHER CAPACITIES ALSO AVAILABLE.



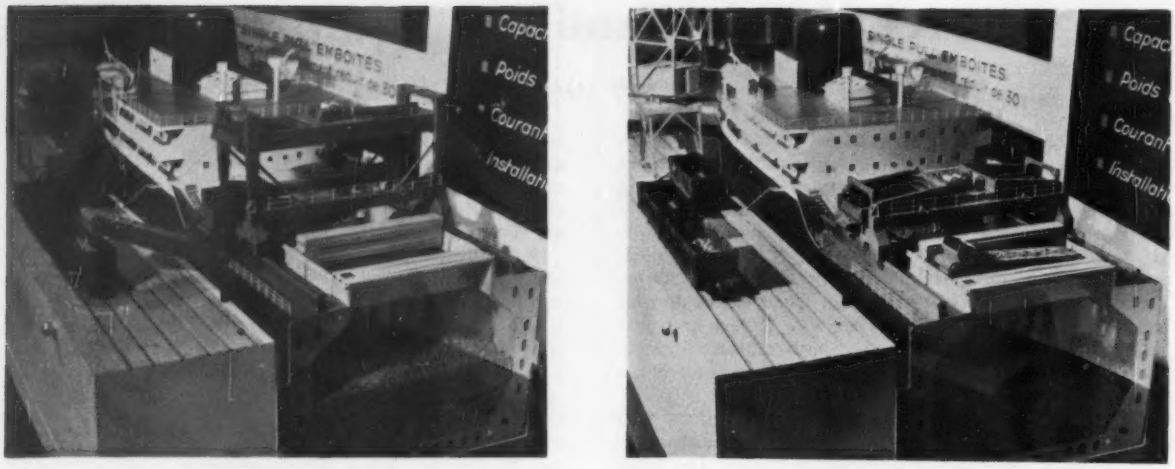
"ALGONQUIN" LOADING/UNLOADING EQUIPMENT IN STOWED POSITION




"ALGONQUIN" LOADING/UNLOADING EQUIPMENT IN WORKING POSITION DISCHARGING OR LOADING BULK CARGO VIA GRAB.




"ALGONQUIN" LOADING UNLOADING EQUIPMENT ARRANGED FOR LOADING PALLETIZED OR OR CONTAINERISED CARGO.



*A model of the Algonquin equipment showing the gear discharging by conveyor (left) and stowed (right)*

It will be noticed that the unloader is designed to stow so as to give a minimum of topweight and top hamper. There is no loss in deadweight as it weighs no more than orthodox cargo gear, while as the complete loader is stowed on the upper deck there is no loss in cubic capacity.

In order to ensure reliability and to avoid complex gearing and transmission problems, each of the main operations, i.e., holding, closing and traversing, is operated by a separate electric motor; but the auxiliary operations, such as bridge-lifting and travelling, are carried out from a common electro-hydraulic system. The bridge is a self-contained unit and all the control gear is mounted on the bridge itself, or in the driver's cabin. This cabin is mounted with the mechanism for the traversing grab, ensuring that the driver always has an uninterrupted view of the load.

The traversing, holding and closing gear trains are mounted on ball or roller bearings and totally enclosed in cast oiltight gearcases. The electric motors are connected to the gear trains through flexible couplings. The grab is traversed by wire rope along the telescopic girder, which is in turn mounted on wheels. The bridge is designed to travel the full length of the ship's hold spaces, driven from the hydraulic system. The bridge travelling gear is designed so that it will travel when fully loaded, but normally it will only be used for travelling from hold to hold.

# Some Problems in Shipbreaking*

## EQUIPMENT AND LAYOUT : HANDLING AND MECHANISATION

**By M. Wilkinson, B.Sc.**

THE shipbreaker's principal task is to obtain mild-steel scrap. There are, however, many other important materials such as alloy steels and numerous grades of non-ferrous metals. A greater yield of non-ferrous metals in the future will arise from the extended use of aluminium superstructures and these will require new demolition techniques. A comparatively small amount of material from a ship under demolition—be it machinery or structure—is re-usable in the same form as it was in the ship. The total number of types and grades of raw materials resulting from ship demolition varies with each ship but, neglecting re-usables, can reach as high as 40.

The principal equipment of shipbreaking comprises quay space, cranes, shears and oxy-flame cutting tools. Quays have to be sufficiently large to accommodate the large vessels that are now being offered for demolition. Cranes are used in a great variety of types from diesel-electric travelling cranes to heavy gantry cranes. One of the favourite types of crane in this country is the Scotch derrick, which is preferred because of its simplicity, reliability and robustness. Up until now shears have been used in very moderate sizes but there is a growing tendency in modernising yards to utilise very large shears of 500 to 1,000 tons capacity, with a high rate of strokes per minute. The main working tool of the manual operator is the oxy-flame cutter and in up-to-date yards this tool is supplied almost exclusively by piped oxygen and piped fuel gas.

The ideal large shipbreaking yard must have sufficient depth of water alongside its quays to take in all the ships likely to be offered to it and, if it intends to demolish the largest liners and naval craft afloat, this means a draught alongside of 30 to 35ft. As there are only a few places where the natural rise and fall of tide is as high as 35ft, the yard then has to make provision for beaching the remains of the ship or providing alternative means for removing the remnants of the hull from the water. A nice compromise between compactness so as to avoid double handling and the necessary space to treat heavy and bulky pieces of ship under demolition is essential. Of the two, space is the more advantageous.

There are many different ways of tackling the demolition of a vessel. Basically, it is the opposite of shipbuilding, and the process is from the mast truck to the keel. If a beach yard is available, the ship is lightened until the draught is sufficiently reduced to enable it to go onto the beach. Thereafter, at successive low waters it is cut through the bottom in sections and lifted out.

Largely because so much manual labour is involved in dismembering a ship, shipbreaking techniques must be ever on the alert for new methods and efficient yards employ work study, method study and other modern techniques of investigation.

A very large proportion of all effort expended in shipbreaking is handling material. Craftsmanship can hardly be said to

* Abstracts from a paper read before the Institution of Engineers & Shipbuilders in Scotland on 17 January 1961. The author's firm is Shipbreaking Industries Ltd.

enter into dismembering, but skill in handling of a very high order is required. First, weights of considerable magnitude have to be cut out of the vessel, for example, balanced rudders, propellers, engine bedplates, boilers etc. The weight of the item to be lifted is rarely known and, therefore, the practical ship-breaking foreman has to have a very sound judgment in estimating the weight of the piece about to be cut or removed so as not to overtax the crane.

Most of the shipbreaking yards in Great Britain employ some form of beaching yard where the ship is finally sectionalised and lifted out. These beaching yards can either be parallel to the tide line, which pre-supposes a large rise and fall of tide, or at right angles to the tide line. In the latter event they are usually of necessity limited in length. With medium-sized cargo vessels and tankers no great problem arises as the length of the ship will probably not be appreciably greater than that of the beaching ground. When large liners and naval vessels are undertaken, although the lightening process, inclusive of removal of main engines and boilers, may have achieved the draught necessary to go onto the beach, they still may be too long for the beach, and a hazard will occur if there is a long unsupported overhang. The problem then arises as to reducing the length of these larger vessels while still afloat. Provided cranage of suitable capacity is available, this is overcome by flooding the fore end until the rudder, propellers, propeller shafts and bossing are clear of the water, well forward of propellers themselves. The stern having been removed, the rudder is lifted away. The propellers are detached by cutting through the shaft at the 'A' bracket or through bossing and shaft. This operation normally increases the trim down by the head and enables the narrow non-buoyant sections of the stern to be removed entirely up to a bulkhead well forward of the bossing. The process can then be reversed and, by trimming the stern down with added water, the bow, if necessary, can be elevated and shortened to the peak bulkhead. In one instance a large Atlantic liner was cut in half afloat after partial reduction. This was accomplished with underwater cutters. The two halves were beached separately.

### Oil Contamination

An increasing problem for shipbreakers is the amount of residual oil, mostly in the form of sludge, which is left in oil-fired or diesel-driven vessels. Many vessels carry oil fuel in their double-bottom tanks in one direction and sea-water ballast in the reverse direction. Over the years this forms a very viscous sludge all over the inside of the double bottom, and much of it is in a condition that can be dug with a spade. Apart from the very necessary prevention of oil pollution in the sea, it is very difficult to open up double bottoms for dissection without setting this oil sludge on fire. It is almost always necessary to cut out a small section of the tank top in order to gain access to start dissecting the double bottom. This very act of removing the small piece of tank top very often starts an uncontrollable fire. Various chemicals have been tried, but individual breakers, and also the British Ship-breakers' Association, are pursuing experiments to find a suitable one that will clean out the interior of double bottoms at an economical price. No doubt science will yield a chemical in due course but, to date, the author knows of none that will meet the peculiar conditions of shipbreaking at an acceptable cost.

This problem can be met in any type of ship. It can, however, be greatly accentuated in dealing with a tanker that has not been properly cleaned after its residual voyages. The problem then becomes enlarged as, although the spaces may not be so confined, the quantity of oil and the area over which it is spread are so large that it can add heavily to the cost per ton of breaking up the vessel. Shipowners do not pay sufficient attention to this when selling their vessels for scrapping. The owner has the facilities available in a live ship, such as steam and workable pumps, which the shipbreaker can only supply from the shore to the dead hulk. The time to clean a vessel is before disposal for breaking, not after. The tendency in the future will be for those owners who properly clean their vessels before disposal to be able to expect a price differential for doing so.

As an example of the amount of oil sludge that can be expected in a large vessel, the case of a *King George V* battleship is quoted. This vessel, handed over by the Admiralty in what it considered to be a clean condition, had had the oil from all its fuel tanks pumped out until the suctions would no longer draw. This left between 4 and 5 tons in each oil-fuel compartment. Some of this was pumpable but most of it was in a near solid or jelly state. As there were 80 such compartments, it meant that the shipbreakers had to deal with approximately 400 tons of this material, so costly to remove.

### Mechanisation

Just as the shipbuilder is developing his prefabrication technique to enable him to join large sections of a ship into the whole on a building berth, the shipbreaker is seeking to reverse this process. The object is to get the ship ashore as quickly as possible and in as large sections as possible and then to reduce these to furnace size for the steelmakers. All the other reclaimable materials are also separated out on the shore. European and American shipbreakers, particularly the latter, are using very large shears for this work. These are electro-hydraulically driven and are automatically controlled. The 560-tons capacity shear reduces ships' plate up to 22ft in length, with normal attachments such as frames or beams still thereon, to 5ft × 2ft steel-furnace size at a rate of about 3 to 4 furnace-size pieces per min. One such shear is already on order for a shipbreaker in Scotland and is expected to be operating early in 1961.

The whole process of shipbreaking, however, has to be reorganised in order to feed these shears. First, different techniques in the cutting of the ship while afloat are required so as to have sections suitable for the shears. Then elaborate handling arrangements have to be made in order to present these large sections to the shears, and again handling arrangements made to clear the finished product away at the rate that the shears produce it. All this reorganisation would be comparatively simple if the material to be dealt with was the same throughout, but not only does each ship vary from the next one but each part of a ship varies from other parts. Such a large tool is unavoidably a very heavy capital investment and can only be successful if a high utilisation can be achieved. This means not only extensive method and work study but a reasonably even flow of ships into the shipbreaking yard. This latter problem is probably the single biggest problem that faces any shipbreaker, that is, continuity of supply.

In shipbuilding the tide probably only affects the production programme on launching day whereas in shipbreaking the tide affects not only arrival but beaching arrangements, and it can also be used to increase the height of dockside cranes by demolishing the highest portions of the ship at low tide. Many of the problems encountered in shipbreaking are, however, the reverse of those encountered in shipbuilding. One of these is a naval architectural problem. When building a ship it is a question of assembling and joining materials on a rigid foundation until they form a sufficiently rigid structure to launch into a flexible support, that is, the sea or river. In shipbreaking the opposite is encountered. In dismantling the rigid girder of a ship while still supported in the flexible medium, namely, water, the structure becomes more and more flexible as demolition proceeds and care has to be exercised not to take liberties with this process and either break the vessel's back while still afloat and before beaching or, more remotely, to capsize it.

### Small Items

Many items containing non-ferrous metals are assembled on mass-production lines, even by female labour. In shipbreaking these are mainly electrical switchgear, control gear, and electronic equipment. Mass demolition, however, is rarely possible. A small electric switch may contain steel, copper, rubber, brass, gunmetal, plastic and chromium plating. Theoretically each item must be separated as any one is an impurity in remelting any of the others. Inevitably separating non-ferrous metals in this class of material is laborious and expensive. A compromise has to be reached where wages expended do not exceed the aggregate sales value of many different materials, each one of comparatively trifling weight. Some of these articles are not worth stripping and are sold to copper refiners as "irony brass." They are melted and only the copper content is paid for. The rest floats to the top of the furnace as slag. The ultimate stage of uneconomical work is to consign such small items to the rubbish dump.

# Large H.S.B.T. Turbochargers

## NEW UNITS FOR MARINE TWO-STROKE DIESEL ENGINES

THE RANGE of turbochargers previously marketed by the Brush Electrical Engineering Co has been extended by Hawker Siddeley Brush Turbines Ltd, whose new factory at Huddlecote was described in THE SHIPPING WORLD of 14 December 1960, to cover applications for marine two-stroke diesel engines. This means that with two larger frame sizes, designated 40 and 50 series, the range of turbochargers now manufactured by H.S.B.T. will be suitable for engines having outputs from 350 to 5,000 bhp per blower. Three of the series 50 turbochargers have already been satisfactorily tested on the new Doxford "P" range engine which has now completed test bed trials and is installed in the tanker *Montana*.

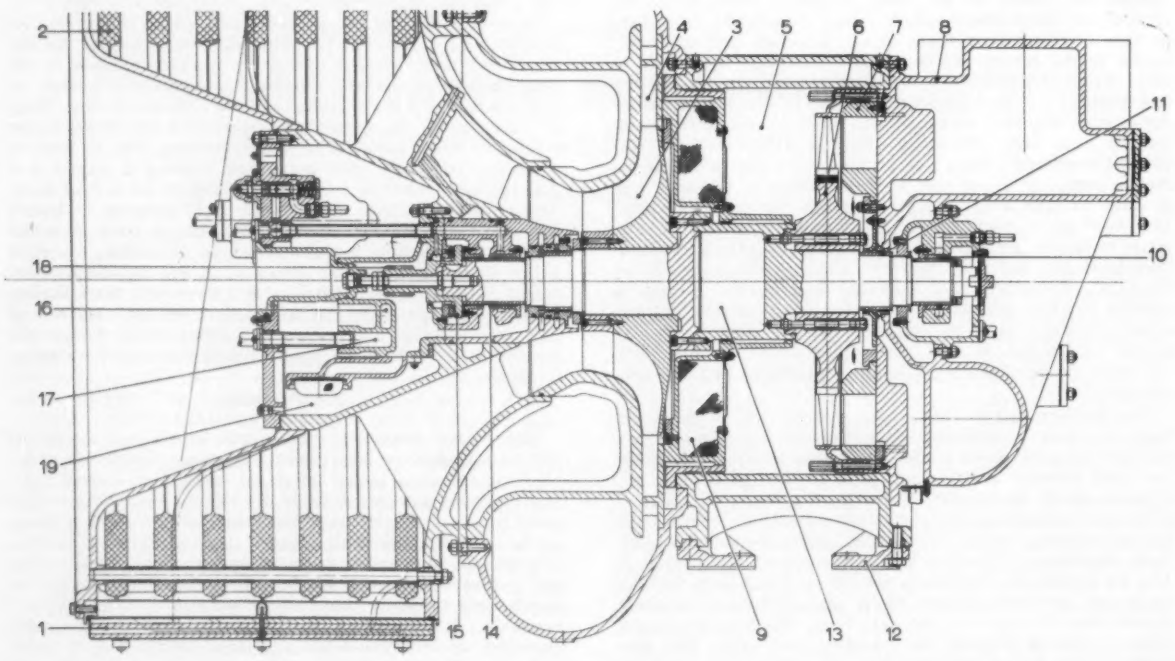
The two new units are of conventional basic construction and incorporate several features which have proved successful and reliable on turbochargers of the smaller range. Air drawn through a silencer and large capacity filter flows through a robust light alloy centrifugal impeller, and is delivered under pressure to the engine scavenge pump or intercooler and thence to the induction manifold. The exhaust gases from the cylinders pass to the single-stage axial-flow turbine through water-cooled casings. A strong nozzle construction has been adopted to which a trap may be fitted to reduce damage to the turbine should fractured engine components pass through the exhaust. For ease of maintenance the rotating assembly can be withdrawn from either end of the turbocharger and, if necessary, the turbine disc can be replaced without the need for rebalancing the rotor or removing any other part of the rotating assembly.

A feature of the rotor shaft is that it has removable hardened steel journals which run in plain bearings of special lead bronze. These bearings do not wear during the life of the turbocharger because of the steady and light load imposed upon them, and in the event of accidental damage the bearing shells and the detachable journal sleeves can be replaced easily without the need for rebalancing the rotating assembly. Axial movement of the rotor shaft, which consists of two forgings, is limited by a tilting pad thrust bearing on the load side with a plain segmented whitemetal ring on the other side of the thrust collar.

### Lubrication System

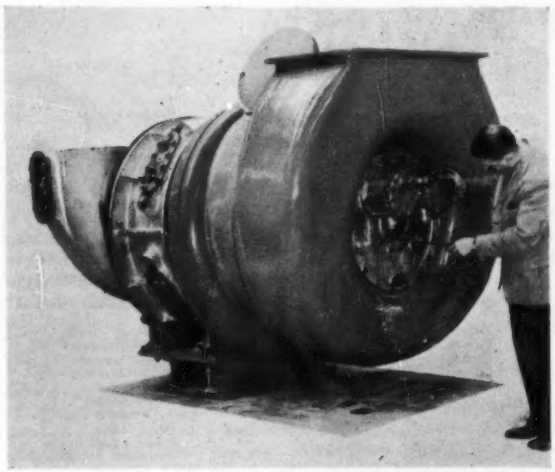
Various systems of lubrication have been designed for use with the 40 and 50 series turbochargers. One is a self-contained system where the turbocharger is fitted with an internal oil pump and is independent of the engine or separate oil supply. The oil cooler through which sea water circulates is, however, external to the turbocharger. A self-priming oil pump immersed in an oil tank located at the compressor end of the turbocharger is driven by worm gearing and delivers oil to the bearings through external pipes via the cooler and full-flow filter.

Twin scavenge pumps, which are housed integrally with the main pump, drain the oil from both the compressor and the turbine bearings, permitting satisfactory operation of the turbocharger when permanently inclined in any direction at 35 to 40 degrees. If a separate motor-driven pump with or without emergency auxiliary supply




*Cross-section of 50 series turbocharger*

1 Filter
2 Silencer ring
3 Centrifugal impeller
4 Compressor diffuser
5 Turbine outlet casing
6 Turbine disc
7 Turbine nozzle
8 Turbine inlet casing
9 Heat shield
10 Turbine bearing
11 Pressurised labyrinth
12 Mounting foot
13 Rotor shaft
14 Compressor bearing
15 Thrust bearing
16 Pressure oil pump delivery
17 Scavenge oil pump inlet
18 Worm gear
19 Oil reservoir



*An H.S.B.T. 50 series turbocharger. This is the size fitted to the Doxford engine in the "Montana"*

is employed, the same lubrication system inside the turbocharger is used except that the pressure and scavenge pumps are omitted.

The turbine inlet and exhaust casings are water cooled, connections having been arranged to suit any of the possible casing positions. Special provision in the design permits various turbine blade heights, nozzle areas, and impeller sizes to be used to facilitate matching the characteristics of the turbocharger any engine within the operating range of the frame size.

**Maximum Continuous Rating**

| Type | MB.40 | MB.50 | HB.40 | HB.50 |
|---|---|---|---|---|
| Boost pressure (gauge) at sea-level | 9 lb/sq in | | 15 lb/sq in | |
| Turbine inlet temperature | 1,200 deg F | | 1,200 deg F | |
| Speed | 8,650 rpm | 6,475 rpm | 10,600 rpm | 7,900 rpm |
| Maximum one hour rating | 10 per cent increase in speed | | | |

**Approximate Free Air Capacities**

| Type | Boost Pressure | Minimum cu ft/min | Maximum cu ft/min |
|---|---|---|---|
| MB.40 | 5 lb/sq in | 4,550 | 9,520 |
| MB.50 | 5 lb/sq in | 8,900 | 15,200 |
| MB.40 | 9 lb/sq in | 5,890 | 12,180 |
| MB.50 | 9 lb/sq in | 11,330 | 19,410 |
| HB.40 | 15 lb/sq in | 7,360 | 15,210 |
| HB.50 | 15 lb/sq in | 14,180 | 24,400 |

# RECENT TECHNICAL DEVELOPMENTS

## Self-Propelled Mobile Lift

A SELF-PROPELLED mobile lift which can hoist a man to a height of 25ft in a few seconds is introduced by the Thames Packaging Equipment Company, 28 City Road, London EC1. Named "Mobiliftor", its outstanding characteristics are versatility of application, mobility and speed in operation. With the help of this unit, out-of-the-way spots can be reached quickly, cheaply, using minimum man-hours and with 100 per cent safety in locations hitherto demanding the use of ladders and scaffolding. One unskilled man on his own can perform, in complete security, jobs normally needing two men. From the working platform the operator exercises complete control of climb and descent at a touch of the control lever (the hoisting mechanism is an air compressor driven by a single-cylinder petrol engine), and of forward, backward, or turning movement in any desired position with complete ease of manoeuvrability. For movement from site to site, the Mobiliftor is easily towed over long distances by another vehicle—or can move under its own power. With its extremely low running and maintenance costs this mobile lift should prove useful when erecting telephone or electric power lines, or for inspection and maintenance in shipyards, dry docks, aircraft factories and hangars, building and construction work, etc.

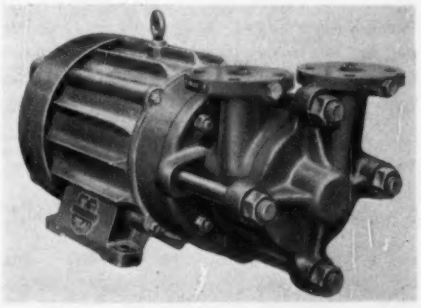
## Flow Indicator for Opaque Liquids

A NEW range of Magnetel flow indicators introduced by Sir W. H. Bailey & Co Ltd, Albion Works, Patricroft, Manchester, has overcome the problem of observing the flow of an opaque liquid through a pipeline. These instruments, which can be used with liquids of almost any viscosity—such as thick oils—are equally suitable for indicating flow either horizontally or vertically upwards. As the fluid travels through the chamber of the indicator it moves a hinged metal flap which incorporates a set-in magnet to operate a pointer against a scale. As there are no springs or other moving parts, the risk of mechanical breakdown or jamming is eliminated, and the pointer and scale are in a separate chamber so that the fluid cannot obscure the window. Internal parts of the Magnetel are readily accessible for cleaning while the body is still in the line, and can be turned through 90 degrees if required to change the direction of flow.

A particular feature is that the Magnetel can be easily adapted for extremely low flow rates, and its fine sensitivity means that the smallest change in relative flow is shown against the scale. It will also accept a wide range of capacities when full flow is shown on the scale. In situations where the liquid may contain ferrous particles which might adhere to the magnet a special screened Magnetel is available, in which the magnet is fully enclosed in an intermediate chamber. The Magnetel is available in standard ½in, ¾in, 1in and 1½in sizes, with ends screwed B.S.P.T., with adaptors to match ⅜in and 1¼in. The 2in size has flanged ends.

## New Mopump for Boiler Feed Duties

THE pump manufacturers, Rhodes, Brydon & Youatt Ltd, Stockport, have announced another addition to their standard range of products. This is the "SC" Mopump which is intended for boiler feed and similar duties: the primary purpose being to meet the demand created by the popularity of "package" boilers. For small installations where the rate of flow is low, conventional multi-stage centrifugal pumps are not usually an economic proposition due to a low efficiency at the duty point and the higher cost of manufacture. The "SC" Mopump is designed specifically for these duties and is a development of the small high-pressure pumps which the company has been manufacturing for many years. The result is a range of pumps with a better performance and lower price.



*The SC Mopump boiler feed pump*

The "SC" Mopump is manufactured with 1, 1¼, 1½ and 2in bore branches in single-stage and two-stage units. Without deviating from a standard construction, any make of drip proof motor or totally enclosed motor of British Standard frame size and suitable shaft extension may be fitted. This will be of special interest to those who prefer a particular make of motor. The full range of sizes is available on short delivery and spares are obtainable from stock.

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THE BERWICK SHIPYARD of the Fairmile Construction Co Ltd, in conjunction with Fire Armour Ltd, of London, are building and equipping a 58-ft fire boat for the Municipality of Kingston, Jamaica. This boat, incorporating the latest waterborne fire-fighting equipment, is to be powered by twin Rolls-Royce diesel engines and will be capable of discharging 3,500 gallons of water per minute.

## NEW CONTRACTS

| Shipowners | No. of Ships | Type | Tons d.w. (gross) | Dimensions (ft.) L.b.p.(o.a.) × B. × D.(dft.) | Delivery | Speed (knots) | Propelling Machinery | Total h.p. | Engine Builders | Shipbuilders |
|---|---|---|---|---|---|---|---|---|---|---|
| **Yards in Great Britain and Northern Ireland** | | | | | | | | | | |
| Federal Fisheries Service, Nigeria | 1 | Fishery research vessel | — | (70) × 19 × 10.5 | — | — | Tw.-scr. diesel | — | — | Brooke Marine |
| Stephenson Clarke | 1 | Cargo | 10,200 | 420 × 56.5 × 36.5 | — | — | 4-cyl diesel | 6,600 | Wm. Doxford & Sons | Burntisland S.B. Co |
| **Overseas Yards** | | | | | | | | | | |
| A. B. Fernstrom: Rederi | *1 | Tanker | 44,000 | — | 1963 | — | Diesel | — | Gotaverken | Oresundsvarvet |
| Swedish owners | 1 (185) | Cargo | 9,300 | — | 1962 | — | Diesel | — | — | Oresundsvarvet |
| Leif Hoegh & Co | 2 (51/52) | Cargo | 5,600 | — | — | — | Diesel | — | Sulzer Bros. | Drammen Skip |
| United Levant Lines | 1 | Cargo | 3,100 (2,100) | — | — | 13.5 | 6-cyl G.V. diesel | 2,250 | Shipbuilders | Empresa Nacional Elcano |
| Soc. Generale de Transports Maritimes | 1 | Cargo | 7,400 | — | 1962 | 16 | B & W diesel | — | Shipbuilders | Ch. de la Seine Maritime |
| Retzlaff-Reederei | 1 | Cargo | 2,340 | — | — | 12.25 | Diesel | 1,600 | Deutz | Elsflether Werft |
| Foreign owners | 1 | Cargo | 15,000 | — | 1961 | 15 | M.A.N. diesel | 6,500 | Shipbuilders | Howaldtswerke |
| Stoom. Mij. "Nederland" | 1 | Cargo | 11,600 | (538) × 69 × 40.25 | 1962 | 19.5 | Diesel | 15,000 | Gebr. Stork | Howaldtswerke |
| Stoom. Mij. "Nederland" | 1 | Cargo | 11,600 | (538) × 69 × 40.25 | 1962 | 19.5 | Diesel | 15,000 | Sulzer Bros. | Howaldtswerke |
| W. H. Muller & Co | 1 | Refrig. cargo | 2,000 | — | — | 15 | Two diesels | 2,450 | M.A.N. | Scheepswerf "Welgelegen", C. Amels & Zoon |
| Formosan owners | 1 | Cargo | 12,500 | — | 1962 | 20.5 | Diesel | 12,000 | Shipbuilders | Uraga Dock |
| Polish Steamship Co | 17 | Cargo | 12,500/14,500 | — | 1962/65 | — | Diesel | — | — | Stocznia Szczecinska |
| Finnish owners | 2 (338/9) | Cargo | 7,500 | — | 1962 | — | Diesel | — | — | Rheinstahl Nordseewerke |
| Kon. Paket. Mij. | 1 (100) | Cargo | 14,500 | (500) × 63.5 × 40 | 1962 | — | B & W diesel | 5,400 | J. Smit | Boele's Scheepswerven |
| Norwegian owners | 2 | Tankers | 40,500 | — | — | — | — | — | Shipbuilders | Eriksbergs M.V. |
| Norwegian owners | 2 | Cargo | 12,600 | — | — | — | B & W diesel | — | Shipbuilders | Eriksbergs M.V. |
| Swedish owners | 1 | Cargo | 9,600 | — | — | — | Diesel | — | Shipbuilders | Eriksbergs M.V. |
| Shun Cheong Nav. Co, Hong Kong | 1 | Cargo | 6,150 | — | 1962 | — | — | 4,900 | Burmeister & Wain | Moss Vaerft |
| Harry Borthen & Co, A/S, Oslo | †1 (150) | Tanker | 50,000 | — | 1964 | — | G.V. diesel | — | Shipbuilders | Marinens Hovedverft |
| U.S.S.R. | 2 | Cable ships | 3,280 | (411.42) × 52.5 × (17.1) | — | — | Sulzer diesel | — | Shipbuilders | Wartsila-Koncernen A/B, Sandvikens |
| Cie. de Nav. Paquet | 1 | Wine/oil carrier | 3,020 | — | — | 14 | Pielstick diesel | 2,940 | S.E.M.T. | At. et Ch. de la Rochelle-Pallice |

* Increase in size from 30,000 dwt. † Increase in size from 36,000 dwt.

## LAUNCHES

| Date | Shipowners | Ship's Name and/or Yard No. | Type | Tons d.w. (gross) | Dimensions (ft.) L.b.p.(o.a.) × B. × D.(dft.) | Speed (knots) | Propelling Machinery | Total h.p. | Engine Builders | Shipbuilders |
|---|---|---|---|---|---|---|---|---|---|---|
| **Yards in Great Britain and Northern Ireland** | | | | | | | | | | |
| Dec. 14 | Clyde Navigation Trust | *Clyde* (1643) | Tug | (90) | — | — | Tw.-scr. diesel | — | Gardner | A. & J. Inglis |
| Dec. 19 | Esso Petroleum Co | *Esso Dover* (536) | Coastal tanker | (500) | — | — | Diesel | — | Mirrlees, Bickerton & Day | J. Bolson & Son |
| Dec. 19 | Hawkstone Fishing Co | *Hawkflight* (305) | Trawler | (163) | — | — | Diesel | — | National Gas & Oil Engine Co | J. Lewis & Sons |
| Dec. 20 | Small & Co (Lowestoft) | *Suffolk Mariner* (460) | Trawler | (202) | — | — | Diesel | 540 | Ruston & Hornsby | Richards Ironworks |
| Dec. 21 | Parbel-Smith | *Admiral Hawke* (893) | Trawler | (230) | — | — | Diesel | — | National Gas & Oil Engine Co | Hall Russell |
| Dec. 21 | Forward Motor Trawlers | *Forward Grace* (4) | Trawler | (212) | — | — | Diesel | — | National Gas & Oil Engine Co | A. J. Mitchell & Co |
| Dec. 22 | John Harker | *Berriedale H* (292) | Tank barge | (176) | — | — | Diesel | — | Gardner | John Harker |
| Jan. 2 | Peter Sleight Trawlers | *Scampton* (776) | Trawler | (210) | 108.75 | — | 5-cyl diesel | 622 | Ruston & Hornsby | Richard Dunston, Hessle |
| Jan. 2 | Lowestoft owners | *Bryher* (279) | Trawler | (150) | (108.75) × 22.25 × 11.25 | — | 5-cyl A.K. diesel | 500 | — | Brooke Marine |
| Jan. 3 | Ross Group | *Ross Cormorant* (1465) | Trawler | (245) | 107.5 × 24.5 × 12.5 | — | 5-cyl diesel | 550 | Ruston & Hornsby | Cochrane & Sons |
| Jan. 7 | W. H. J. Alexander | *Sun XXIII* | Tug | (150) | 86 × 24 × 12.25 | — | 6-cyl diesel | 1,200 | Mirrlees, Bickerton & Day | Philip & Son |
| Jan. 9 | Talisman Trawlers | *Carlton Queen* (280) | Trawler | (150) | (116.9) × 23 × 11 | — | Diesel | 550 | Crossley Bros. | Brooke Marine |
| **Overseas Yards** | | | | | | | | | | |
| Oct. 31 | Denizcilik Bankasi T.A.O. | *27 Mayis* (781) | Cargo | 5,100 (3,800) | 328 × 49.2 × 27.67 | 14 | Sulzer diesel | 3,200 | Uraga Dock | Nipponkai H.I. |
| Nov. 29 | Surrey Shipping Co | *Telde* (888) | Refrig. cargo | 6,380 (6,715) | 415 × 59.33 × 36(26) | 17.5 | Geared turbine | 8,500 | Shipbuilders | Bremer Vulkan |
| Dec. — | Mosvold Shipping Co | *Moscliff* | Tanker | 50,000 | 735.58 × 100 × 52.9(39.42) | 17 | Geared turbine | 17,600 | Shipbuilders | Mitsubishi S.B. & E. Co, Nagasaki |

## TRIAL TRIPS

| Date | Shipowners | Ship's Name and/or Yard No. | Type | Tons d.w. (gross) | Dimensions (ft.) L.b.p.(o.a.) × B. × D.(dft.) | Speed (knots) | Propelling Machinery | Total h.p. | Engine Builders | Shipbuilders |
|---|---|---|---|---|---|---|---|---|---|---|
| **Yards in Great Britain and Northern Ireland** | | | | | | | | | | |
| Jan. — | A. & W. (Overseas Developments) | *Arthur Albright* (392) | Bulk carrier | 10,000 (6 600) | 390 × 56.75 × 36(28) | — | Doxford diesel | 3,300 | Hawthorn Leslie | Burntisland S.B. Co |
| Jan. 10 | Bank Line | *Avonbank* (1637) | Cargo | 12,000 (8,700) | 450 × 62.5 × 29.5(20.5) | 15 | 4-cyl B & W diesel | 5,800 | Shipbuilders | Harland & Wolff, Belfast |
| Jan. 11 | Ashley Fishing Co | *Jasmin* (502) | Trawler | (245) | — | — | Diesel | 660 | Lister Blackstone | T. Mitchison |
| **Overseas Yards** | | | | | | | | | | |
| Nov. — | Atlantska Plovidba | *Drzic* (157) | Cargo | 12,300 (8,000) | 487.42 × 65.67 × 26.25(29.5) | 14.24 | 6-cyl Sulzer diesel | 7,050 | C.R.D.A. | Brodogradiliste Split |
| Nov. 16 | Olav Line, Copenhagen | *Olav Drot* (87) | Cargo | 5,000 (3,700) | 331(361.5) × 47.5 × 20(19.67) | 16.25 | 6-cyl diesel | 3,300 | Burmeister & Wain | Helsingborgs Varfs |
| Nov. 24 | Lundgren & Borjessons Rederier | *Anjan* (251) | Cargo | 12,420 (8,550) | 467.2 × 60.75 × 40.5(29.67) | 14.75 | 6-cyl G.V. diesel | 5,600 | Shipbuilders | Uddevallavarvet |
| Dec. — | Finland Sydamerika Linjen | *Araguaya* (1078) | Cargo | 8,400 (5,400) | 427.5 × 57.75 × 38.1(25.67) | 16 | Sulzer diesel | 6,300 | Shipbuilders | Wartsila-Koncernen A/B, Crichton-Vulcan |
| Dec. — | U.S.S.R. | *Ussurijsk* (770) | Cargo | 11,500 (9,500) | 475.75 × 64 × 39(28.75) | 17.5 (T) | 8-cyl diesel | 10,000 | Shipbuilders | Burmeister & Wain |

# MARITIME NEWS IN BRIEF

THE death has occurred of Mr R. G. M. Street, the South Wales shipowner. Mr Street, who was awarded the C.B.E. last year, was managing director of the South American Saint Line, which he founded when he was 26; he later became director of a number of other shipping companies.

MR J. H. B. CHAPMAN is to retire as Director of Naval Construction in April after more than 44 years in Admiralty service, during which time he became the first Director of the Naval Construction Division on the creation of the new Ship Department of the Admiralty two years ago. In this appointment he has been the chief warship designer. His successor will be Mr A. N. Harrison, who has been Assistant Director of Naval Construction since October 1951.

MR D. P. BIDDELL, Mr H. S. Hearne and Mr H. K. U'Ren have been appointed assistant managers of the Port Line Ltd. Mr Biddell was appointed head of the Outward Freight Department in 1949. In 1954, his duties were divided between himself and Mr U'Ren, who was appointed head of the Australian Outward Freight Department, Mr. Biddell becoming head of the New Zealand side. Mr Hearne has been head of the Inward Freight Department since 1954.

COMMANDER J. R. PATTERSON, technical secretary at Pametrada since 1952, has died. He joined the Royal Navy at the age of 15 and served for 35 years.

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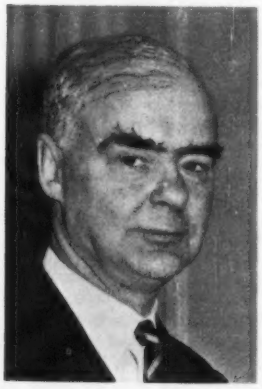
MR C. E. BENNETT, senior purser of the P & O fleet since 1952, has retired. Mr Bennett served in the Atlantic Transport Line until he joined the P & O Branch Service as purser in 1929. In June 1934, he was appointed purser of *Carthage*, and two years later joined the *Rawalpindi*. In October 1938, he was appointed to the *Canton*. During the war he served as a purser on *Strathallan*, and immediately after the war joined *Strathaird*. He became senior purser in January 1952, and joined *Iberia* when she was commissioned in 1954.

MR W. A. GALBRAITH has been appointed sales director of the Yale & Towne Manufacturing Company's British Materials Handling Division at Wednesfield, Staffs.

MR C. H. DAVY, resident director of the Scottish Works of Babcock & Wilcox Ltd since 1951, is returning to London where he will take up duties at the head office on February 1 as an executive director.

SIR PERCY HUNTING has relinquished the chairmanship of Hunting Aircraft Ltd. Sir George Edwards has been elected to succeed him.



*MR E. R. LEWIS, chairman of Decca Radar Ltd and the Decca Navigator Co Ltd, has been created a knight bachelor in the New Year's Honours List. Mr Lewis became a director of Decca Record Co Ltd in 1931, and was appointed chairman in 1957. Apart from also being chairman of the two subsidiary companies, he is also chairman of Reid & Sigrist Ltd. He has been a member of the London Stock Exchange since 1925 and was educated at Rugby and Trinity College, Cambridge*

CAPTAIN GUENTHER ROESSING has been appointed master of the North German Lloyd liner *Bremen*. Capt Roessing, who joined the company in 1922 as a cadet officer, was previously in command of the *Berlin*, which he took over in July 1959. He succeeds Capt Fritz Leusner who has retired.

MR M. I. GOODMAN has been promoted to the position of Chief of the American Maritime Administration's Office of Ship Operations. For the past seven years, Mr Goodman has served as Deputy Chief of the Office he now heads. He succeeds Mr Sullivan, who was recently designated Nuclear Ship Operations Officer in anticipation of the activation shortly of the *Savannah*, the world's first nuclear-powered merchant ship.

MR H. MARTIN, home sales manager of Murex Welding Processes Ltd, retired in December after 38 years' service. Mr R. E. H. Bell, assistant home sales manager for the past ten years, has been appointed to succeed him.

*CAPTAIN GEORGE MAYHEW, who until recently was Commodore of the Union-Castle Line fleet and master of the new liner "Windsor Castle", has been appointed group marine superintendent for the British & Commonwealth Line and a director of the Union-Castle Line. Capt Mayhew has been with the Union-Castle since 1917 when he joined as a cadet. His first command was the "Llangibby Castle" in 1941, and he was commanding the "Roxburgh Castle" when she was torpedoed and sunk in 1943. He was appointed Commodore of the fleet in 1953 and took command of both the "Pendennis Castle" and "Windsor Castle" on their maiden voyages*

THE death has occurred of Mr John Embleton, who retired three years ago after 34 years' service with Shell Tankers Ltd. At the time of his retirement he was senior chief engineer.

MR S. H. GOSS has been appointed joint managing director with Mr L. G. Oxford of Firth Cleveland Instruments Ltd, a member of the Firth Cleveland Group.

MR H. R. ROLPH has been elected president of the Marine Exchange of the San Francisco Bay region.

MR A. W. THEOBALD has been re-elected chairman, and Sir Walter Barrie elected deputy chairman, of the Joint Hull Committee for the ensuing year.

MR N. J. TATHAM has been appointed general manager of the Liverpool office of Furness, Withy & Co Ltd, and a director of Johnston Warren Lines.

MR L. B. T. GALLOWAY has been appointed an assistant manager of Cayzer, Irvine & Co Ltd, managers of the Clan Line Steamers Ltd.

MR A. MILLER has been appointed technical sales manager, Marine Division, of Camrex Paints Ltd.

MR WILLIAM WHITTON has been transferred to the New York office of the American Bureau of Shipping from Kobe, Japan.

• • • •

THE Union-Castle liner *Braemar Castle*, on returning from her refit at Liverpool, will undertake a 15-day Mediterranean cruise sailing from Southampton on March 25. Extensive alterations are being made to the *Braemar Castle* at Liverpool by Harland & Wolff Ltd. The funnel, which will resemble the "pepperpot" shape of the *Pendennis Castle's* funnel, will have 12ft added to the height. "A" deck will be completely reconstructed during the ship's refit. Each of the cabins on this deck will have its own bathroom or shower and will be air-conditioned.

SHIP arrivals at New York last year totalled 13,484 compared with 13,597 for 1959. The sailings for 1960 totalled 13,493 compared with 13,663 for 1959. Arrivals of ocean-going vessels totalled 1,107, of 5,978,818 nrt, during the month of December, compared with 1,110, of 6,066,182 tons, in November. Of the 1,107 vessels arriving during the month of December, 830 were in the dry cargo and passenger trade, and 277 were tankers.

THE INTERNATIONAL AIR TRANSPORT ASSOCIATION reports that scheduled air traffic over the North Atlantic during the third

quarter of 1960 showed substantial increases over the same period of the previous year. Passenger traffic increased by more than 28 per cent, cargo traffic by more than 42 per cent, and mail traffic by more than 44 per cent. The number of passengers carried on scheduled flights in both directions during the months of July, August and September was 670,124, as compared with 523,031 in the same months of 1959.

• • • •

WATTS, WATTS & CO LTD have closed their Liverpool office. Following this, the interests in the United Kingdom of Societe Generale pour la Navigation Maritime, S.A.E., Alexandria (which includes Societe Misr de Navigation Maritime, S.A.E., and The Alexandria Navigation Co., S.A.E.) will be represented by Alexandria Navigation Co (London) Ltd, whose offices will be at the London address of E. H. Mundy & Co Ltd, Walsingham House, 35 Seething Lane, London EC3.

THE MINISTRY OF TRANSPORT has moved its new headquarters at St. Christopher House, Southwark Street, London SE1 (telephone: Waterloo 7999).

THE CONTROL of P. K. Harris & Sons Ltd has been acquired by Seawork Ltd and extensive reconstruction work has recently been completed at the shipyard. Mr K. W. Tarn, a director of Seawork Ltd, has been appointed to the board of P. K. Harris & Sons as senior executive director.

ESCORT MARINE RADAR, fitted by Associated Electrical Industries Ltd in the Cunard liners *Queen Elizabeth* and *Queen Mary*, is to be installed in the passenger vessels *Saxonia*, *Ivernia* and *Carinthia* in addition to A.E.I. RMS-2 radar.

A PAY-LATER PLAN has been announced by the Cunard Line and its associated companies for bookings made in Canada for transatlantic sailings, cruises, and, when one leg of the journey is by a Cunard liner, air bookings by Cunard Eagle Airways. The new arrangement operates in conjunction with the Toronto-Dominion Bank.

THE Institute of Navigation is holding a meeting at 5.15 p.m. on February 17 to discuss various aspects of marine charts. The Hydrographer of the Navy will be in the chair and a panel of experts from the Hydrographic Department will answer questions put from the floor.

*SARFAREZ KHAN, chief engine room serang of the P & O liner "Strathnaver", has been appointed to the same position in the company's flagship "Canberra". Sarfarez Khan was awarded the B.E.M. in the New Year's Honours List in recognition of his long and faithful service. He joined the company forty years ago in the "Morea" and has since visited almost every port in the world. He served in the "Carthage" during the Second World War, and has lost count of the number of ships in which he has served*

## RECENT SHIP SALES

(*Continued from page 120*)

sold by D/S A/S Fro (A. Kjerland & Co A/S), Bergen, to other Norwegian buyers for about £90,000 on terms of credit.

Motor vessel *Antonios V.* (ex-*Alfhem*, ex-*Gausdal*, ex-*Hoegh Trader*, ex-*Guldborg*, 4,847 grt, 2,781 nrt, built 1930 by Odense Staalskibs A/S) sold by Cia. Naviera del Egeo S.A., Panama, to Japanese shipbreakers for about £59,000.

Motor vessel *Holberg* (3,950 dwt, 2,434 grt, 1,328 nrt, built 1949 by Smith's Dock Co Ltd) sold by A/R Seljan (Paul Jebsen), Bergen, to Norwegian buyers for £192,500.

Motor vessel *Goya* (ex-*Kamerum*, 6,950 dwt, 5,239 grt, 2,900 nrt, built 1938 by Bremer Vulkan) sold by A/S Ludwig Mowinckels Rederi (Den Norsk Syd-Amerika Linje), Bergen, to Norwegian buyers at Haugesund for about £100,000.

Motor vessel *Frigg* (ex-*Pan*, ex-*Astri*, 3,760 dwt, 2,522 grt, 1,399 nrt, built 1937 by A/B Lindholmens Varv) sold by Botvid Ohlsson, Oslo, to Finnish buyers for about £100,000.

Cargo steamer *Torr Head* (8,454 dwt, 5,021 grt, 3,017 nrt, built 1937 by Harland & Wolff Ltd) sold by Ulster S.S. Co Ltd to the Pan-Norse S.S. Co S.A., Panama, and renamed *Balboa*.

Cargo and passenger steamer *Amakura* (3,803 dwt, 2,961 grt, 1,588 nrt, built 1949 by Smith's Dock Co Ltd) sold by Booker Line Ltd to Peninsular Shipping Co Ltd, Hong Kong, for £92,500 with prompt delivery Liverpool, and to be renamed *Greenford*.

Passenger motor vessel *Duntroon* (5,980 dwt, 10,514 grt, 5,803 nrt, built 1935 by Swan Hunter & Wigham Richardson) sold by Grosvenor Shipping Co Ltd, Hong Kong, to Kie Hock Shipping Co Ltd, Singapore, for further trading. She had previously been bought by the Hong Kong firm from the Melbourne Steamship Co Ltd, Melbourne, for demolition at Hong Kong.

## FIFTY YEARS AGO

From THE SHIPPING WORLD of 18 January 1911

Preparations for the launching on February 1 of H.M.S. *Thunderer*, the first Thames-built battleship of the *Dreadnought* class, which has been in course of construction for the past nine months at the Thames Ironworks, Canning Town, E., are being rapidly completed. The ceremony of launching and christening the great vessel is to be performed by Mrs. Randall Davidson, and the Archbishop of Canterbury will probably attend and conduct the preliminary service. The keel plate of the vessel was not laid till April 13 last, so that her rapidity in construction is without parallel on the Thames. The vessel is expected to be finished at the beginning of next year. The launching weight will be about 10,000 tons, as against a final displacement of 22,500 tons. Parsons turbines of 27,000 h.p. will give her a speed of 21 knots.

---

The death of Sir Thomas Brocklebank, Bart., removes not only the head of an old and honoured Liverpool family, but also the principal of one of Liverpool's oldest shipping companies, namely, Messrs. T. & J. Brocklebank, Ltd. The business was originally established in the year 1750 at Whitehaven as a shipbuilding concern, but early in the nineteenth century the Brocklebanks transferred their activities to the Mersey port, not only as shipbuilders, but as shipowners and merchants, in which latter capacity they proceeded to develop a great trade with our Indian Empire. The Brocklebank Line not only provides a strong connecting link between Liverpool, London, and our great Eastern Dependency, but between this country, Antwerp, China and Japan; and the late baronet in all these business enterprises proved a worthy successor to his father in the senior partnership. His eldest son, Mr. Aubrey Brocklebank, succeeds to the title, and now becomes senior partner in the firm.

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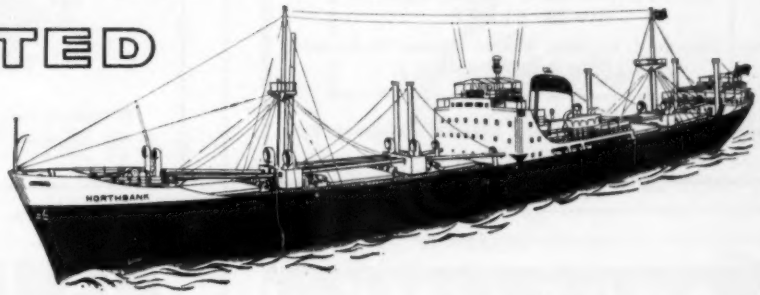


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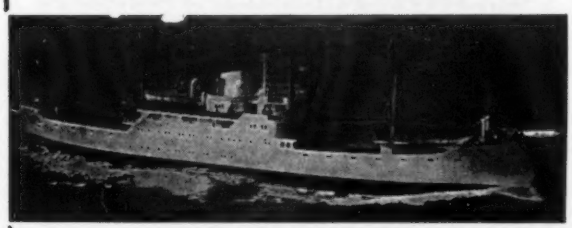

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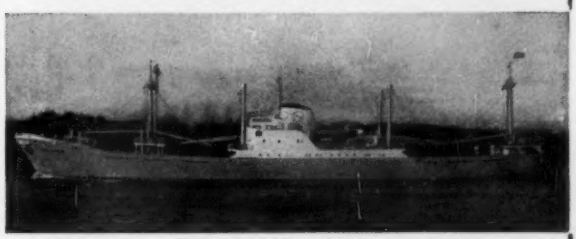

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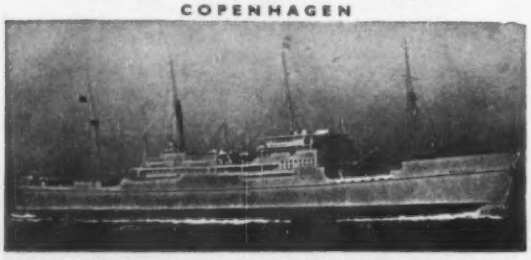

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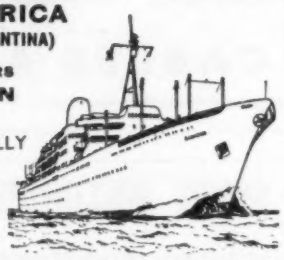

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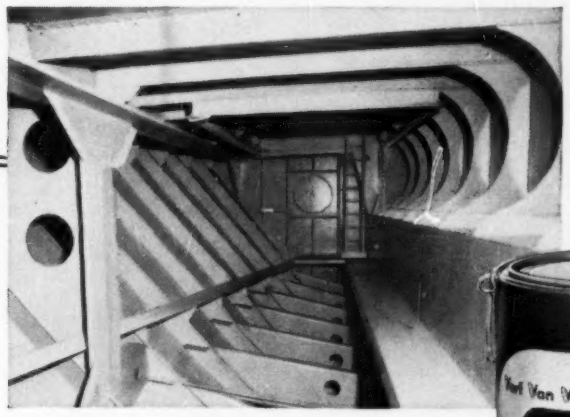

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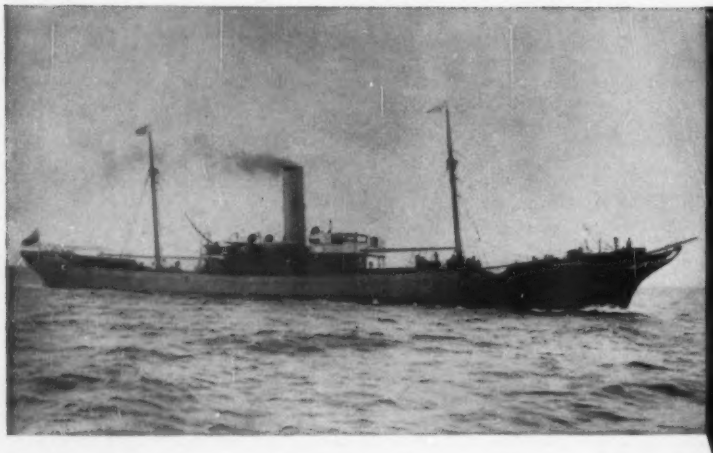

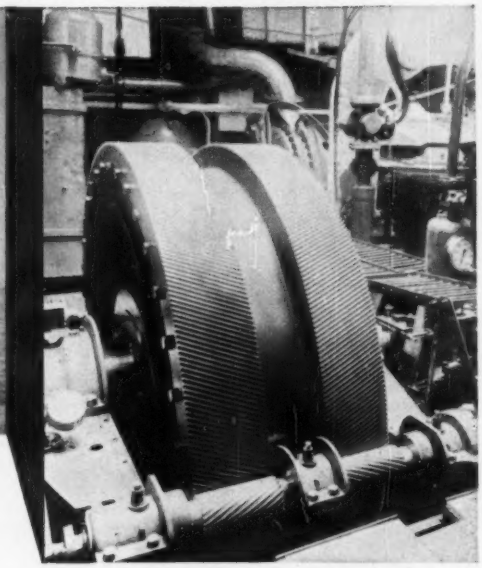

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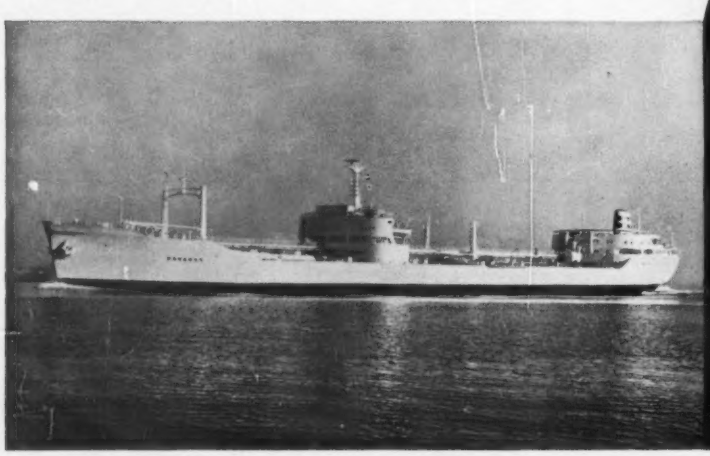

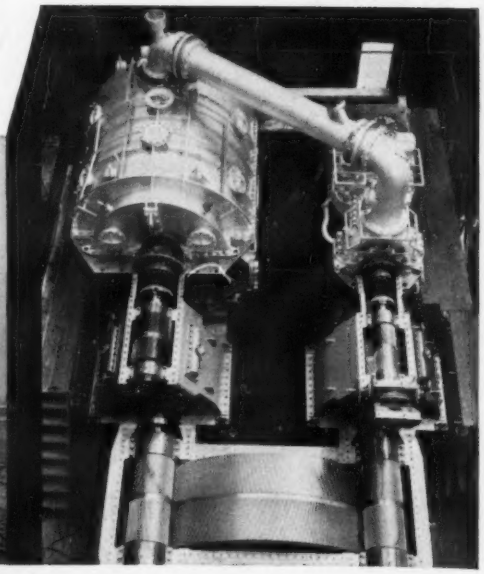

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